BIODATA

Name: Dr. Jignesh N Sarvaiya

Qualification: B.E., M.Tech. (IIT, Bombay), Ph.D.

Date of Joining: 01/01/1998

Designation: ASSOCIATE PROFESSOR

Research Area: Signal & Image Processing, Bio-Medical **of Interest:** Instrumentation, Electronics System Design

Postal Address: ELECTRONICS ENGINEERING DEPARTMENT,

S V NATIONAL INSTITUTE OF TECHNOLOGY, Surat Ichchhanath, Gaurav Path, Dumas Road SURAT-395007

Email: jns@eced.svnit.ac.in

Nationality: Indian



Education Details:

1.	B.E	Electronics	SVRCET, Surat	June,1996
		Engineering		
2.	M.Tech.	Bio-Medical	IIT, Bombay	July.20006
		Engineering		
3.	Ph.D	Electronics	S.V.N.I.T, Surat	July-2008 to
		Emgineering.		January 2013

Dissertation / Thesis:

Sr	Examination	Supervisor	Duration	Dissertation/Thesis Title
No	Passed			
1.	M. Tech.	Dr. P. C. Pandey	July 2004 -	Development of an impedance
	(IIT, Bombay)			glottograph
			July 2006	
2.	Ph. D	Dr Suprava Patnaik	24/07/2008-	Efficient Features Extraction
	(SVNIT)	_	12/01/2013	Techniques for Image Registration

Achievement/Award

Session best Paper Award in ISEM Society's International Conference in Electronics, Bio-Medical Engineering & its applications (ICEBEA-2011), during July 08-09, 2011 at Bangkok.

Patent Detail:

Sr No	Name of the faculty	Title/Area	Where accepted/filed	Date of Acceptance	Date of Filed	Patent No.
1.	Dr. J. N. Sarvaiya , Prashant Kumar Pandey, Dhaval Vora	Method for compression using variable entropy method	The Patent Office, Government of India, Boudhik Sampada Bhavan, Near Antop Hill Post Office,S.M.Road, Antop Hill,	Under Review	14/5/2015	1893/MUM/201 5 A ISSUE NO. 21/2015
			Mumbai – 400 037			

Sponsored Research (Funded Research) Project:

Date of Allotment	Name of Projects	Name of Project Coordinator	Grants Sanctioned	Duration	Funding Agency	Status
December, 2014	FPGA Based Adaptive Filter For Noise Cancellation	Dr. A. D. Darji Dr. J. N. Sarvaiya	Rs. 24,00,000	02 Years	BRNS	On Going
4 th Feb 2015	Special Manpower Development Program for Chips to System Design.	Chief Investigator: Dr. A. D. Darji Chief Co- Investigator: Prof. P. J. Engineer Investigators: Dr. J. N. Sarvaiya Dr. Z. M. Patel Dr. Rasika Dhavse Prof. M. C. Patel	Approx. Rs. 75 lakhs (Total Program Outlay Rs. 99.72 Crore Distributed across 10 Resource Centers and 50 Participating Institutions)	5 years From 4 th February 2015 to 3 rd February 2020	MeitY, GOI	On Going

Research Paper Publication:

National Journal:

- V. K Pandey, Prof. P C Pandey, J N Sarvaiya, "Impedance Simulator For Testing of Instruments for Bio Impedance Sensing", IETE Journal of Research, pp. 203-207, Vol. 54, No.3, May 2008
- J N Sarvaiya, Prof. P C Pandey, V K. Pandey, "An Impedance Detector for Glottography", IETE Journal of Research, pp.100-105, Vol.55 No. 3, May 2009

International Journal:

- 1. Kartikey Thakar, Divyang Kapadia, Fenil Natali, Jignesh Sarvaiya, Implementation and analysis of template matching for image registration on DevKit-8500D, Optik International Journal for Light and Electron Optics, Elsevier, Volume 130, Pages 935–944 **SCI Index**, March 2017
- 2. Hemant S Goklani, Jignesh N Sarvaiya, Fahad Abdul "A Review on Image reconstruction using compressed Sensing Algorithms: OMP, CoSaMP and NIHT" Accepted for publication in International Journal of Image, Graphics and Signal Processing April 2017
- 3. Jerin Jose, J N Sarvaiya, Mrs. J.N. Patel, Dr. S.Patnaik, "Sourcs Rate Distortion Perfomance Comparision for Different Constraints in image coding using Learned Global Dictionary" European Journal of Scientific Research, Impact Factor: 0.713 2014
- 4. J N Sarvaiya, Dr. S.Patnaik, "Image Registration Using Log Polar Transform and Phase Correlation to Recover Higher Scale", Journal on Pattern Recognition Research (JPRR), pp. 90-105, Vol.7 No.1 3,Feb 2012
- 5. J N Sarvaiya, Dr. S.Patnaik, "Automatic Image Registration Using Mexican Hat Wavelet, Invariant Moment, and Radon Transform", International Journal of Advanced Computer Science and Applications, Special Issue on Image Processing and Analysis, pp.75-84 Issue No.1, DOI 10.14569/issn.2156-5570, June 2011

- 6. J N Sarvaiya, Hemant Goklani, Dr. S Patnaik, "Image Registration Using NSCT And Invariant Moments", International Journal of Image Processing, CSC Journals, Kuala Lumpur, Malaysia, ISSN (Online): 1985-2304, May 2010
- 7. N. B Kanirkar, J N Sarvaiya, "BER VS SNR Performance Comparison of DSSS-CDMA FPGA Based Hardware With AWGN, Spreading Codes & Code Modulation Techniques", International Journal of Engineering Research And Industrial Applications, Vol. 1, No. 2, pp.155-168, August, 2009
- 8. N. B. Kanirkar, J N Sarvaiya, "Performance Evaluation of Direct Sequence Spread Spectrum CDMA Transceiver Hardware using Pseudo Code And Code Modulation Techniques", International Journal of Engineering Research & Industrial Application (IJERIA)Vol.: 2, No.: II, 2009, pp: 01-13, March 2009
- 9. N. B. Kanirkar, J N Sarvaiya, "Performance Evaluation of Direct Sequence Spread Spectrum of CDMA Technology with AWGN Channel using MATLAB/Simulink", International Journal of Engineering and Technology, pp. 11-20 Vol. 1, No.2, Dec. 2008 December, 2008

International Conference:

- 1. Ketki C. Pathak, Dr J N Sarvaiya, Dr. A D Darji, "Lossless Medical Image Compression Using Transform Domain Adaptive Prediction for Telemedicine", WISPNET -2017 Conference, pp. 1052-1057, 22-25, March, 2017, Chennai.
- 2. Dr U.D.Dalal. Dr J.N sarvaiya, Saros Dastoor. "Comparative Analysis of Optimization Techniques for Optimizing the Radio Network Parameters of Next Generation Wireless Mobile Communication", Fourteenth International Conference on Wireless and Optical Communications Networks (WOCN2017), Thakur College of Engineering and Technology (TCET), Mumbai University, 24th, 26th of Feb 2017.
- 3. Dr.U.D.Dalal. J N sarvaiya Saros Dastoor. "Issues, Solutions and Radio Network Optimization for the Next Generation Heterogeneous Cellular Network—A Review", International Conference on Wireless Communications Signal Processing and Networking (WISPNET 2017), Chennai, India, 22 24 March 2017
- 4. Dr.U.D.Dalal. . Dr J.N sarvaiya , Saros Dastoor "Efficient Dimensioning and Deployment criteria for Next Generation Wireless Mobile Network" 2nd International Conference on Information and Communication Technology for Intelligent Systems, **Springer SIST Series:** 25-26 March 2017.
- 5. Hemant S. Goklani, Ms.Shravya S., J. N. Sarvaiya, "Image Super-resolution using Multi Image Multi-coupled Dictionary Learning", The First IASTED International Conference on Intelligent Systems and Robotics ISAR 2016, Zurich, Switzerland, 6-8 Oct 2016
- 6. Ms. Ankita N Chadha, Prof. M.A. Zaveri, J. N. Sarvaiya, "Isolated Word Recognition using Neural Network for Disordered Speech", The Third IASTED International Conference on Telehealth and Assistive Technology, ~TAT 2016, Zurich, Switzerland, DOI: 10.2316/P.2016.846-005, 6-8 Oct 2016
- 7. J N Sarvaiya, Prof. S. Patnaik, Hemant Golkani, "Automatic Feature Extraction Technique for Image Registration, 3rd International Conference on Information Technology and Science (ICITS 2015), Thailand, ISSN: 1793-8201, 28-29 March 2015.
- 8. J N Sarvaiya, Dr. Suprava Patnaik, Alpesh Dobariya, "Interactive Image Registration Using Active Contour and Radon Transform", The IASTEAD International Conference on Computational Photography-(Cphoto-2011) Vancouver, BC, Canada, July 1-3, 2011
- 9. J N Sarvaiya, Dr. Suprava Patnaik, Hemant Goklani, "Feature Based Image Registration Using Hough Transform", International Conference on Electrical, Computer, Electronics & Biomedical Engineering (ICECEBE'2011), Bangkok, Thailand. July 8-9, 2011.
- 10. J N Sarvaiya, Dr. Suprava Patnaik, Hemant Goklani, "Image Registration Using Mexican-Hat Wavelets and Invariant Moments, Computer Networks and Information Technologies, Second International Conference on Advances in Communication, Network, and Computing, CNC 2011, Bangalore, India, Proceedings Available Online on Springer Verlag, pp.574-577, March 10-11, 2011.
- 11. J N Sarvaiya, Neeta Chapatwala, "Different Speed Optimizations For MPEG AAC Encoder", International Conference on Advances in Computer Engineering, Bangalore, INDIA. June21-22, 2010.

- 12. J N Sarvaiya, Salman Bombaywala, "Image Registration By Template Matching Using Normalized Cross- Correlation", International Conference on Advances in Computing, Control, and Telecomm. Technologies, Association of Computer, Electronics and Electrical Engineers Trivandrum, Kerala, INDIA pp.819-822, December 28-29, 2009
- 13. J N Sarvaiya, Salman Bombaywala, Suprava Patnaik, "Image Registration Using Log-Polar Transform and Phase Correlation", International Technical Conference of IEEE Region 10, TENCON2009, IEEE Singapore Section, Singapore, November 23-26, 2009.
- 14. J N Sarvaiya, Dr. Suprava Patnaik, "Automated Hybrid Temporal Image registration using random transform", The Eleventh IASTED International Conference on Signal and Image Processing, Honolulu, Hawaii, USA, pp.90-94, August 17-19, 2009.
- 15. J N Sarvaiya, Salman Bombaywala, "Temporal Image Registration Using GCPs and Bivariate Polynomial Estimation", The Eleventh IASTED International Conference on Signal and Image Processing, Honolulu, Hawaii, USA. pp.95-100, August 17-19, 2009.
- 16. Neeta Chapatwala, J N Sarvaiya, "Real Time Implementation of LPC-10 Coder Using TMS320C6713", International Conference on Communication Computers and Instrumentation at Vivekanand Education Society's Institute of technology, Chemnur, Mumbai, India, pp. 147-151, Jan 2-3, 2009.
- 17. Praneeth B., J N Sarvaiya, Neetam Desai, "Design of RF Front End Transceiver for low data rate communication", International Conference on Communication Computers and Instrumentation at Vivekanand Education Society's Institute of technology, Chemnur, Mumbai, India, pp. 152-155, Jan 2-3, 2009.

National Conference:

- 1. J N Sarvaiya, "Comparison of MIMO Channel Capacity with various Wireless Channel models", National conference on Technological Innovation, BRCM College Of Engg. & Tech, Bhiwani, Haryana, pp. 262-264, Vol 1, October, 11-12, 2008
- 2. Praneeth B.,J N Sarvaiya, "A 0.25μm CMOS LNA DESIGN for 2.4GHz Application", Second National Conference Second National Conference Technologies-2008, NCCT'08, Mepco Schlenk Engineering College, Sivakasi, pp. 295-298, March 14-15, 2008
- 3. Vishaka, J N Sarvaiya, "Code Excited Linear Predictive Coder at 8.5 kbps and 7.2 kbps", National Conference on Advanced Communication Techniques-2008, A.C.College of Engineering & Tech., Karaikudi, pp.51, Vol 1, March, 9, 2008
- 4. Vishaka Gor, J N Sarvaiya; "Psychoacoustic Model for MPEG Advanced Audio Coding (AAC)"; National Conference on "Current Trends In Technology; 338-342; Nirma Institute of Technology, Ahmedabad, Electronics Engg. Dept.; November 27-29.
- 5. Vishaka Gor, J N Sarvaiya; "Computationally Efficient Psychoacoustic Model for MPEG Advanced Audio Coding (AAC)"; National Conference on "Advancements in Wireless Technologies & Applications (AWTA-08)"; 105-110, ; Electronics Engg. Dept., SVNIT, Surat; December 18-19.
- 6. J N Sarvaiya, Convolution Coded OFDM Performance Analysis Includes Interleaver For Different Code Rate, National Conference on Advanced Communication Techniques-2008, A. C.College of Engineering & Tech., Karaikudi, pp.45, Vol 1, March, 9, 2008
- 7. J N Patel, J N Sarvaiya; "Convolution Coded OFDM Performance Analysis Includes Interleaver for Different Code Rate"; National Conference on Advanced Communication Techniques-2008, NCACT'08; A.C.College of Engineering & Tech. Karaikudi.; 2008

Ph.D Student Supervisor:

Sr No	Roll No	Name of Students	Admission Year /Viva Date	Title	Supervisors
1.	DS09EC902	Amit Joshi (Completed)	Dec 2009- 27/07/2015	VLSI Implementation of Video Watermarking Based on H.264 Coding Standard	I/C Supervisors Dr. U. D. Dalal Dr. J. N. Sarvaiya

2.	DS11EC003	Surabhi Dwivedi (Completed)	05/01/2012- 18/12/2016	Design and Development of Metamaterial-Based Radone Structures for Space-Borne Communications	I/c Supervisor Dr. J. N. Sarvaiya
3.	D13EC002	Hemant Goklani (Ongoing)	23/07/2013	Image Super Resolution	Dr. J. N. Sarvaiya
4.	D14EC007	Pathak Ketki (Ongoing)	16/07/2014	Intra Prediction Coding For Bio-Medical Application	Dr. J. N. Sarvaiya Dr A.D.Darji
5.	DS14EC006	Sarosh Dastoor (Ongoing)	15/01/2015`	Wireless Communication and Radio Network Design	Dr. (Mrs).U. D. Dalal Dr. J. N. Sarvaiya
6.	D15EC002	Ankita Chadha (Ongoing)	21/07/2015	Speech Processing	Dr.M.A. Zaveri Dr. J. N. Sarvaiya
7.	D16EC003	Sruthi S. (Ongoing)	18/07/2016	Bio Impedance Measurement	Dr. R. N. Dhavse Dr. J. N. Sarvaiya
8.	D15EC004	Sreeraj K. P. (Ongoing)	23/07/2015	Hyper Spectral Image Fusion using Dictionary Learning Methods	Dr.(Mrs.) J. N. Patel Dr. J. N. Sarvaiya
9.	D16EC004	Lakhlani Avni (Ongoing)	18/07/2016	Video Surveillance	Dr. J. N. Sarvaiya Dr. J. N. Patel

M Tech Dissertation Supervision:

Sr No	Roll No	Name	Dissertation Title	Year
1.	P09EC921	Chaudhari Vishnu kumar R (Ext Guide: Dr.Ajai kuamr & Amit Kumar Srivastava)	Development of control system for SST-1 Thomoson scattering experiment	2010-11
2.	P09EC924	Kothari Kajal D.	Implementation of feature based image registration algorithm using log polar transform, Hough transform and Mexican HAT wavelet	2010-11
3.	P10EC945	Manish nakrani	3-D modelling from 2-D Images	2011-12
4.	P11EC010	Nijin E	An Efficient VLSI Architecture for video capsule endoscopy	2012-13
5.	P11EC019	Patel Jigar	Hybrid approach of image stitching using normalized gradient correlation and Harris corner detector	2012-13
6.	P12EC007	Fahad A. M.	Performance evaluation of compressed sensing algorithms on image reconstruction and its application	2013-14
7.	P12EC010	Pravin Ashok kamble	Implementation of face detection algorithm	2013-14
8.	P12EC003	Jerin Jose (Coguide)	Sparse coding using content specific overcomplete dictionaries for still image compression and transmission over noisy channel	2013-14

9.	P13EC001	Jerin Raju	Cross Domain Synthesis and Recognition using cooped dictionary and feature space learning	2014-15
10.	P13EC002	Ankita Khetan (Ext.Guide: Mr. A. Niranjan)	Development of host test Framework and its verification	2014-15
11.	P13EC008	Tejas V. Rathod	Cross Style Image Synthesis using semi- coupled dictionary learning	2014-15
12.	P13VL007	Gosar Ankur pankaj (Ext.Guide: Mr Jay Makhija)	Asynchronous FIFO design and challenges	2014-15
13.	P14EC001	SHRAVYA S	Image Super Resolution Using Multi- Couples Dictionary Learning	2015-16

Expert Lecturers Delivered:

Sr. No.	Title of the Lecture	Place of Delivering	Date	Event
1.	Analog Modulation Scheme	Valia Institute of Technology, Bharuch	January 2008	Lecture Series on Comunication System
2.	Switching Mode Power Supply	Valia Institute of Technology, Bharuch	January 2008	Lecture Series on Electronics System Design
3.	Fundamental Digital Circuits for VLSI.	ISF organized at SVNIT, Surat	18-19 Sept'10	Workshop on VHDL
4.	Introduction to MATLAB and Image processing Application (Including practice session)	ISF organized at ECED SVNIT, Surat	26-27 March 2011	Two days workshop on MATLAB
5.	Image Registration Techniques	Parul Institute of Technology, Vadodara	26 July 2013	Key Note Speaker in STTP
6.	Image Registration using Mexican Hat Wavelet Transform and Zernike moments.	Merchant Charitable Trust, Basna, Mehsana,	21/03/2014	1st International Conference on Contemporary Issues in Engineering & Technology (ICCIET- 2014)
7.	Image processing & its application	SVNIT, CRC Seminar Hall 2014.	2014	Short Term Training Programme
8.	Image Registration	GCET, Vidhyanagar	17/10/2015	Short Term Training Programme
9.	Feature Extraction Techniques	Institute of Plasma Research, Gandhinagar	05/11/2015	Ph.D. Orientation and Research Meet
10.	Image Processing And its applications	SVNIT-SURAT	ONE WEEK	Workshop on High Computing

11.	Theory & Lab Analog and Digital Electronics(JNS,JNP)	ECED, SVNIT	7 th Feb,2017 & 14 th Feb,2017	Training cum Workshop for Supervisors and Technicians of Indian Railways For Upgrading Their Skills
12.	Image processing Laboratory using MATLAB	ECED Seminar Hall	13 th Sept.,2016	One Week Short Term Training Program on EMERGING TRENDS IN SIGNAL AND IMAGE PROCESSING

Conference/ Workshop / Seminar / Short Courses etc. Organized:

Sr No	Type	Title	Duration	Venue	Duty	Sponsor
1.	workshop	National level 2 days workshop on VLSI System Design	28 Feb, 2009- 01 March, 2009	ECED, SVNIT	Coordinator	SMDP-II
2.	National Conference	National Conference on Advancements in Wireless Technologies and Applications	18 Dec 2008- 19 Dec 2008	SVNIT	Organizing Committee Member	AICTE, DST, CSIR
3.	Short Term Training Program	Teaching with MATLAB and SIMULINK	21 Dec, 2009- 25 Dec, 2009	SVNIT	Coordinator	AICTE
4.	International Conference	1st International Conference On Emerging Technology Trends in Electronics, Communication & Networking	19 Dec, 2012- 21 Dec, 2012	SVNIT	Convener Dr. U. D. Dalal Coordinators Dr. V. Mishra Prof. N. Kanirkar Dr. J. N. Sarvaiya	DST
5.	Workshop	3-Days Workshop on Computing for Image Analysis	6 th June 2013-8 th June 2013	SVNIT	Coordinator Dr J.N sarvaiya Co-cordinators: Mrs. J. N. Patel Mr. M. C. Patel	TEQIP-II
6.	Workshop	10 Days Workshop on Signals and Systems	2 nd Jan 2014- 12 nd Jan 2014	SVNIT	Remote Center Coordinator	Electronics Engg. Dept., NMEICT live from IIT, Kharagpur

7. 8.	International Conference Short Term	2nd International Conference on Emerging Technology Trends In Electronics, Communication and Networking Wireless and	December 26- 27, 2014	ECED, SUNIT	Dr. VMishra Dr U.D Dalal, Dr. J N Sarvaiya Dr. V. Mishra	TEQIP-II
	Training Program	Optical Communications	2013	SVNIT	Dr. P. N. Patel Mr. A. Mandloi Mrs. S. Gupta Dr. J N Sarvaiya	
9.	National seminar,	Two days National seminar, "New Trends in Signal Processing (NeTSiP-2015)"	3rd and 4th October 2015	Dhirubhai Ambani Institute of Information and Communication Technology (DA-IICT), Gandhinagar, Gujarat (India).	Organizing Chair	IEEE Gujarat section, IEEE signal processing society
10.	Short Term Training Program	EMERGING TRENDS IN SIGNAL AND IMAGE PROCESSING (ETSiP-2016)	13-17 September, 2016	ECED, SVNIT	Dr. J N. Sarvaiya Prof. P K. Shah Dr. A D. Darji	TEQIP-II
11.	National Seminar	New Trends in Signal Processing (NETSIP-2016)	20-21th oct,2016	Jointly Organized by SVNIT, SCET	Co-ordinator	TEQIP-II, IEEE Gujarat section, IEEE signal processing society
12.	Finishing School	Machine Learning using OpenCV and Python	18-19th March, 2017	SVNIT	Dr. K.P.Upla, Dr J N Sarvaiya	TEQIP-II
13.	Seminar	Cyber Security for Youth	12/11/2016	SVNIT	Dr. Shilpi Gupta, Dr, R N Dhavse, Dr. U D Dalal, Dr. P N Patel, Dr. J N Sarvaiya	IETE Surat Sub enter

Conference/ Workshop / Seminar / Short Courses etc. Attended:

Sr No	Type	Title	Place	Duration
1.	Workshop	Engineering Research Methodology & Developing Wining Proposals	EQUATE, New Delhi	09-11/06/2014
2.	STTP	Image Processing Techniques with Multidisciplinary Applications	IIT,ROORKEE	March 3-7, 2014
3.	Workshop	Latest Trends in Administration	GOA	21 st -23 Sept, 2015
4.	STTP	Information Theory and Channel Capacity	Bharti School of Telecom Technology and Management, IIT Delhi.	14-19 December,2015
5.	Workshop	Latest Trend in Administration Including Recruitment Policy, Seniority, APAR, DPC &etc	Society for Economic Research & Training, New Delhi	21-23/09/2015
6.	Workshop	Outcome Based Education (OBE)'	MED, SVNIT, Surat	24 th Feb,2016
7.	Faculty Development Program	Outcome Based Teaching-Learning"	SVNIT, Surat	3 rd to 5 th June 2016

Review of Books:

Sr. No.	Name of Book(s)	Authors	Publisher
1.	Digital Image Processing	S Jayraman, S E sakkirajan & T Veerkumar	McGraw-Hill
2.	Information Theory, Coding and Cryptography	Ranjan Bose	McGraw-Hill
3.	New Script on Electronic Principles	Malvino	McGraw-Hill
4.	Electronic Principles	Malvino	McGraw-Hill

PH.D Thesis Reviewer:

- Ph.D Thesis Evolution 10th Feb,2016 at KADI Sarvavishwavidyalaya, Gandhinagar.
- Dr. J. N. Sarvaiya has conducted final Ph.D Viva-voce examination at Nirma University, Ahemdabad on 22/02/2017.

Membership of Technical Societies:

Sr. No.	Name of Association / Society	Category	Membership No.
1.	ISTE	Life Member	M-209753
2.	IJERIA	Life member	LM-2223
3.	IEEE	Member	91128004

Administrative Responsibilities:

- 1. Head of Electronics Engineering Department From 06/06/2016 To Continue.
- 2. Worked as a Associate Dean Faculty Welfare.
- 3. Worked as a Ph. D Incharge.
- 4. Worked as a P.G Incharge.
- 5. Worked as a Co Incharge for B.Tech. First Year Admission in JoSSA.
- 6. Worked as a Co Incharge for M.Tech. First year Admission in CCMT.

Dr J.N Sarvaiya

ECED, SVNIT, Surat