

Dr. Deepak Vishnu Bhoir

Unique ID: 1-451479687

Professor and Dean, Academics



Date of Joining	02-05-1992
Education Qualifications	UG B.Sc. Tech. (Biomedical Instrumentation) PG M.E. (Electronics) PhD Ph.D. (Electronics Engineering)
Work Experience	Teaching: 32 Yrs Industry: 2 Yrs Research: 8 Yrs
Area of Specialization	Biomedical Instrumentation. Automation, VLSI and MEMS Technology
Courses Taught at	Under Graduate / Post Graduate
Research Guidance (No. of Students)	04
Master Guidance	Completed: 12 Ongoing: 01
PhD Guidance	Completed: 02 Awarded Ph.D.: 1. Dr. Nandana Prabhu: An automated screening system for Classification of Diabetic Retinopathy and investigation of its association with Pathological parameters 2. Dr. Prashant V. Kasambe: Performance Evaluation of MEMS Devices for Various Geometrical Structures Pursuing Ph. D. research scholar area: Battery Management System, VLSI Design, Biomedical Instrumentation Ongoing: 02
Projects Carried out	Project Carried Out UG LEVEL: Low-cost Portable Ventilator, PLC based chemical processing and packing, PCB Printing and Drilling, DAS for Diesel Engine, Digital Phase Meter, Annunciator, Lab-VIEW based patient Monitoring, Lab. view base ECG Monitoring

Project Carried Out **PG LEVEL:**

21/2-dimension novel Device, Finger Print Recognition, Biological Descriptor Model for Respiratory Recognition, Wearable Biomedical Devices

Patents (Filled & Granted) --

**Grants from the
Government Agencies**

1. F.No.1691499635/AICTE/ATAL 2023-24 for FDP on 'Applied Machine Learning for VLSI Design' Grant received 3,50,000/-
2. AQIS: STTP on "Research Areas in Technologies for Societal and Rural Development" sponsored by AICTE Amount 1,92,666/- STTP for which the grant received through the Ref. No. 34-65 /18/RIFD/STTP/Policy-1/2018-19 dated 10/01/2020
3. MODROB for IOT Lab: The total sanctioned amount 8,32,000/- by the approval letter no. F. No. 9-200/RFID/MOD/Policy-I/2018-19 dated 29/11/2019
4. ISTE-STTP on Mechatronics funded by ISTE-AICTE Rs. 1.5 lac in 2001
5. ICAC'3 2009 AICTE grant for the conference Rs. 2 Lac

**Research / Special
Projects Completed:**

1. Real Time clock design with hundred-year Calendar for Ms Monalisa Pvt. Ltd.
2. Completed Digital Phase Meter for Mecco Industries (Mumbai)
3. Sessions at L& T for Corporate training on Embedded System (Analog and Digital Circuits Design) 9th and 10th September, 2005

**Research Publication:
In Conference:**

1. Prashant Kasambe, Sagar Zoting, Saurabh Thakur, Tejas Dhebe and Deepak Bhoir, "Micro TCD Gas Sensor: Design Optimization, Simulation and Analysis," Published at International Seminar Cum Research Colloquium on MEMS based Sensors and Smart Nanostructured
2. Prashant Kasambe, Abbas Barwaniwala, Bhushan Sonawane, Jay Rana, Nilesh Raykar and Deepak Bhoir, "Mathematical Modelling and Numerical Simulation of Novel Cantilever Beam Designs for Ohmic RF MEMS Switch Application," ICAC3'2019, 20-21st Dec 2019,
3. Prabhu N. A., Bhoir D.V., Rao U., "Performance Analysis of Convolutional Neural Networks for Exudate Detection in Fundus Images" 3rd International Conference on Intelligent Computing and Communication (ICICC-2019), Dayananda Sagar University, Bangalore
4. Prabhu N. A., Bhoir D.V., Rao U. "Template matching technique for Optic Disc localization in Fundus Image" IEEE fifth International Conference on Computing for Sustainable Global Development, INDIACOM, March, 2018 <http://www.bvicam.ac.in>
5. D. V. Bhoir, P.V. Kasambe, K. S. Bhole "Design and simulation of high snr varying thickness embedded strain sensing polymer microcantilever for biosensing applications' Proceedings of the ASME 2018 International Design Engineering

6. Deepak Bhoir, Nandana Prabhu, Uma Rao ' Automatic Detection of Diabetic Retinopathy: A Review' Proceedings of the 11th INDIA Com; INDIACom-2017 4th 2017 International Conference on "Computing for Sustainable Global Development", 1st – 03rd March, 2017, 9th and 10th September,2005 Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi (INDIA)
7. N M Desai, D V Bhoir " Comparative study of Signal Processing in Cochlea Implant" at International Conference and Workshop on recent trends in technology, 2012 TCET page 531- 536
8. Rameshwari Mulay, D V Bhoir "Fuzzy controlled based improvement in green house performance", National conference at WIEE& CT, Mumbai. SEPT.2011
9. D V Bhoir, Dr M S Panse "Micromechanical Cochlear Processor", ISEABB-2009 International Symposium on Emerging Areas in Bioscience and Bioengineering at IIT,Bombay, Powai, Mumbai, India on 26th-28th February,2009, 70-71
10. S Mahadik, D V Bhoir, K Narayanan "Fingerprint Recognition" ICAC3'09 International Conference on Advances in Computing Communication and Control at Fr. CRCE, Bandra, Mumbai-40050, [MS] INDIA on 23rd -24th Jan. 2009 PROCEEDING 71-74.
11. D V Bhoir, Dr M S Panse Virtual Instrumentation based Development of a speech processor for Cochlear implant, Proceeding of SPIT-IEEE Colloquium and International Conference at Sardar Patel Institute of Technology, Mumbai on 4th-5th February 2008 VOL.
12. D V Bhoir, Umesh Mhapanker, "A wearable medical multi-parameter storage Device and Alert System", Proceeding of NCNTE-2008, National Conference on Nascent Technology in Engineering, CRIT, Vashi, Newmumbai on 29th Feb- March 1st, 2008, 74-76
13. D V Bhoir, S Mahadik, "Fingerprint Recognition for better security" NCSPA-07 National Conference on Signal Processing Algorithm at DYPIECT, Pimpri, Pune-411018,[MS] INDIA on 06-07 September 2007 PROCEEDING 71-74.
14. D V Bhoir, Dr M S Panse "Lab VIEW based sound localization system for Cochlear implant" CITICOMS-2007 International conference on Modeling and Simulation at CIT (Coimbatore Institute of Technology), Coimbatore, on 27-29 August 2007 , VOL II 1157-1161
15. D V Bhoir, Dr S Joshi, "Cutting forces in machining using self-propelled round inserts face milling cutter", INCRAF-2003 International Conference on CAD, CAM, Robotics and Autonomous Factories at IIT, Delhi on 11-13 August 2003.

In Journals:

- 1) P. V. Kasambe, K. S. Bhole, N. R. Raykar and D. V. Bhoir, "Mechanical Modeling, Numerical Investigation and Design of Cantilever Beam for Low Pull-in MEMS Switch," Ref.: Ms. No. IJDM-D-22-00390R1, International Journal on Interactive Design and Manufacturing, 2022
- 2) D. V. Bhoir, P. V. Kasambe, K. S. Bhole, A. A. Bage, and N. R. Raykar "Analytical modeling and numerical investigation of a variable width polymer micro cantilever based flow sensor," Journal of Advances in Materials and Processing Technologies, Taylor publication, 2022
- 3) D. V. Bhoir. P. V. Kasambe, K. S. Bhole, "Analytical modelling, design optimisation and numerical simulation of a variable width cantilever beam MEMS switch," Journal of Advances in Materials and Processing Technologies, Taylor Francis, pp. 1-21. July 2021
- 4) Prabhu N. A., Bhoir D.V., Rao U., "Effectiveness of Machine Learning Techniques for Macula Edema Detection", International Journal of Computer Applications volume 182, number49, April 2019
- 5) Prabhu N., Bhoir D., Shanbhag, N., "Diabetic Retinopathy Screening using Machine Learning for Hierarchical Classification", International Journal of Innovative Technology and Exploring Engineering, Volume8, Issue 10, Aug 2019 (Scopus)
- 6) D. V. Bhoir, P.V Kasambe, K. S. Bhole, " Performance Evaluation of Embedded Strain Sensing Varying Thickness Polymer Micro-cantilever as Biosensor Platform" ,International Journal of Latest Technology in Engineering, Management & Applied Science (IJLTEMAS) Volume VI, Issue VII, July 2017 , ISSN 2278-2540
- 7) D V Bhoir, Mangala Satardekar, " Analysis and enhancement in the performance of electrical muscle stimulator", International journal of engineering sciences & research technology, Vol.(Iss.): January, 2017,ISSN: 2277-9655
- 8) D. V. Bhoir, Anish Bhurke ' Review paper for sample separation and preparation for Gas Chromatography' International journal of Science Engineering and Research(IJSER), Volume 4, Issue 10, October 2016, ISSN 2437-3878
- 9) D. V. Bhoir, Anish Bhurke' Volatile Sample Separation Device (Prototype-1)' International Journal of Scientific Engineering and Research (IJSER) ISSN (Online): 2347-3878, Volume 4 Issue 9, September 2016 Impact Factor (2015): 3.791 www.ijser.in
- 10) D V Bhoir, Aishwarya Mhatre ' Real time arrhythmic detector and analysis using Lab-VIew' International Journal of Science and Research(IJSR) Volume 4 Issue 10, October 2015 ISSN 2319-7064
- 11) D V Bhoir, Aishwarya Mhatre ' Real time arrhythmic detector and analysis using Lab-VIew' International Journal of Science and Research(IJSR) Volume 4 Issue 10, October 2015 ISSN 2319-7064
- 12) Dattaprasad Madur, Dr. Deepak Bhoir, Swapnali Makdey, 'Three-dimensional integration of CMOS inverter ' INTERNATIONAL JOURNAL OF ELECTRONICS AND

COMMUNICATION ENGINEERING & TECHNOLOGY (IJECET), ISSN 0976 – 6464(Print)
Volume 5, Issue 11,2015

- 13) Najib Ghatte , Shilpa Patil , Deepak Bhoir."Floating Point Engine using VHDL", International Journal of Engineering Trends and Technology(IJETT), V8(4),198-203 February 2014. ISSN:2231-5381
- 14) Najib Ghatte , Shilpa Patil , Deepak Bhoir. ' High Speed ALU Design using Vedic Sutras' at ICRJCEE, Jan 11, 2014
- 15) Sangeeta Parshionikar, Dr. Deepak V. Bhoir,' Standby leakage power reduction techniques in Deep Sub micron CMOS circuits' International Journal of Computer Applications (0975 – 8887) International Conference on Communication Technology,17-19,2014
- 16) Ramesh Kamath, Siddesh Nadkarni, Kundan Srivastav, Dr. Deepak V. Bhoir,' Data acquisition system and telemetry system for unmanned aerial vehicles for SAE AERO design series' International Journal of Electronics and communication Engineering,2013
- 17) D. V. Bhoir, Dr. M. S. Panse "Modeling and signal processing for cochlear implant prostheses to improve speech recognition" IJCE2012 International Journal of Recent Trends in Engineering and Technology [ISSN: 2158-5555]July 2012
- 18) D. V. Bhoir, Dr. M. S. Panse, "LabVIEW based clinical test of the Cochlear Implant" IJSER , International Journal of Scientific and Engineering Research [ISSN 2229-5518] Volume 3, Issue 7, July 2012.
- 19) D V Bhoir, Dr M S Panse, "Advances in cochlear Implant Implementation", International Journal of Recent Trends in Engineering [ISSN: 1797-9617] by the Academy Publishers, Finland. Nov 2009 issue, Vol. 2, No. 1-6, IP 57-59

No. of Books Published with details

1. Procedia Computer Science Volume 49, Pages 1-370 (2015) Proceedings of 4th International Conference on Advances in Computing, Communication and Control (ICAC3'15)
2. Srija Unnikrishnan, Sunil Surve and Deepak Bhoir. Proceedings of 3rd International Conference on Advances in Computing, Communication and Control, 2013 Springer publication
3. Proceedings of 2nd International Conference on Advances in Computing, Communication and Control, 2011 Srija Unnikrishnan, Sunil Surve and Deepak Bhoir, Springer Publication

Positions and Achievements:

Currently **Member, Board of Studies**, Electronics Engineering, University of Mumbai from December 2023.

Member, Board of Studies, Electronics and Telecommunication Engineering, PCCOE, Pune

Member, Board of Studies, Electronics Engineering, University of Mumbai during May 2016 for three years

Head of the Department of Electronics Engineering from Jan 2010 to 2019

Co-opted Member, Syllabus Committee, Electronics Engineering PG section, in revision 2012

Nodal Coordinator: NIRF 2017, 18, 19,20 and ARIIA-2019,20

Reviewer in many International journals, Conferences as well as National conferences

Reviewer of various books on Linear Circuits and Biomedical Instrumentation for various publication houses such as pearson, Penram etc.

Various Projects got national, state, institute level awards

Presently permanent invitee, Secretary, Fr. Agnel ISTE Chapter (Duration: - Feb 1998 to March 2007)

Controller of Examination (Duration: - 2004 - 2006)

Conference Chair, Programme Chair, Treasure for various editions of ICAC'3

Resource Faculty at ISTE-STTP Programmes at various Institutes such as Fr. CRCE (22nd June 2006), Vidyavardhini COE, Vasai (may 2006), Thakur COE and Technology, Kandivali (21st Nov, 2006), Terna Engineering College, Nerul (7th August, 2008) on the topic "Mixed VLSI Circuit Design" and at K J Somaiya College of Engineering and Information Technology, Sion on the topics of "Clock Distribution" and "Mixed VLSI Circuit Design"(13th Jan.2011). Invited Speaker Seminar on "Recent Developments in Biomedical Instrumentation" , "LabVIEW in Biomedical Instrumentation" and advances in VLSI Design Virtual Instrumentation in Biomedical Application at PCIT, Pune(2019), MPSTE , Vile Parle(2021)