Name: Anagha Maneesh Panditrao

Date of Birth: 10th September 1974

Faculty ID of AICTE: 1-435731905

Qualification:

- **Ph.D.** in Electronics and Telecommunication Engineering (2012) University of Pune, India
- **M.E.** in Instrumentation (2002),University of Pune, India
- **B.E.** in Instrumentation (1996) University of Pune, India

Experience:

Industry: - - **Teaching:** 24 yrs. **Research:** 5 yrs

Area of Interest:

- Process Control
- Transducer Design

Research Work:

- **PhD thesis** titled, "Temperature Estimation Technique Using Photographic Images of Visible Light Emission."
- Temperature Measurement
- **Publications**-
    - International Journal: 09
    - International Conference: 16
- **Research Project:** "Estimation of Electrolytes in a Flame Using Digital Photography"

Courses Taught:

- **Under Graduate Level:**
    - Sensors and Transducers

- Process Instrumentation
- Process Dynamics and Control

- **Post Graduate Level:**
  - Transducer Design

Research Guidance:

- No. of papers published in National/ International Journals/ Conferences:**21**
- Master:**10**

Projects Carried Out: 20

Recent Projects:

- Estimation of Electrolytes in a Flame Using Digital Photography
- Designing of thermal cycler for PCR application
- Soft Robotics
- Asset Tracking Using GPS

- **Technology Transfer** : 1
- **Research Publications**
- **<u>International Journal</u>**
- Rajshree Doshi, **Anagha Panditrao**, "Non-Invasive Optical Sensor for Hemoglobin Determination", *International Journal of Engineering Research and Applications,* Vol. 3: (559-562), March 2013.

- Raina Daga, **Anagha Panditrao**, "Acoustical Analysis of Pain Cries in Neonates: Fundamental frequency", *International Journal of Computer Applications,* Vol. 3: (20-23), December 2011.

- Bhagyashree Palnitkar, **Anagha Panditrao**, "Estimation of Electrolytes in a Flame Using Photographic Images", *International Journal of Computer Applications,* Vol. 1: (17-21), December 2011

- **Anagha Panditrao**, Priti Rege, "Temperature Estimation of Visible Heat Sources by Digital Photography and Image Processing", ***IEEE Transactions on Instrumentation and Measurement,* Vol. 59: (1167-1174), May 2010**

- **Anagha Panditrao**, Priti Rege, "Estimation of Spectral Response of a Consumer Grade Digital Still Camera and its Application for Temperature Measurement", ***Indian Journal of Pure and Applied Physics***, Vol. 47: (703-707), October 2009

- **Anagha Panditrao**, Priti Rege, "Visible Light Source Temperature Estimation Using Digital Camera Photography", *Advances in Numerical Methods,* ***Springer US,*** Vol. 11: (249-258), July 2009

- **Anagha Panditrao**, Priti Rege, "Estimation of Furnace Temperature Distribution Using Digital Photographic Images", *Metallurgija, Journal of Metallurgy*, Vol. 15: (115-123), June 2009

- **<u>International Conference</u>**

- Vishakha Bene, **Anagha Panditrao, "**Enhancement of Modbus on Power Command Controller board of Genset" *International Conference on Emerging Trends in Science, Engineering and Technology (ICETSET-2018),* 8th-9th May 2018

- Sushreesmarika Behera, **Anagha Panditrao,** "Designing of Thermal Cycle for PCR" *IEEE International Conference on Computing Communication Control and Automation,*17-18 August 2017

- Shweta Potdar, **Anagha Panditrao,** Niranjan Khambete, "Monitoring Breathing Rate using Bio-impedance Technique", *IEEE International Conference on Computing Communication Control and Automation,*10-12 August 2016

- Shraddha Vaidya, **Anagha Panditrao**, "Design and Development of Non-Invasive Human Breath Sensor", *International Symposium on Physics and Technology of Sensors ,* 6-8 March 2015.

- Amruta Deshmukh, **Anagha Panditrao**, "Segmentation of WBC Nucleus Using shape based feature extraction ", IEEE *International Conference on Convergence of Technology,* to be held April 2014.

- Megha Deshmukh, Anagha Panditrao, "Design and Development of Thermistor based Sensor for Spirometry", *Proceedings of IEEE international conference on Electrical*,Electronics and Computer Science (SCEECS), 1-3, Bhopal, March 2012

- **Anagha Panditrao**, “Direct Reading Flame Photometer Using Digital Photography and Image Processing”, *Proceedings of IEEE international conference on Instrumentation and Biomedical Engineering* (ICICI-BME), 132-136, Bandung, Indonesia, November 2011

- Raina Daga, **Anagha Panditrao** "Acoustical Analysis of the Neonate Cry due to Pain", *Proceedings of IEEE international conference on Innovative Science and Engineering Technology*, ICISET-2011, Rajkot, April 2011

- Bhagyashree Palnitkar, **Anagha Panditrao** "Detection of Electrolyte Concentration in Flame Using Digital Photography and Image Processing", *Proceedings of IEEE international conference on Innovative Science and Engineering Technology* (ICISET-2011), 240-244, Rajkot, April 2011

- **Anagha Panditrao**, Priti Rege, “Estimation of the Temperature of Heat Sources by Digital Photography and Image Processing”, *Proceedings of IEEE international conference on Instrumentation and Measurement*, (I2MTC), 218-223, Singapore, May 2009

- **Anagha Panditrao**, Priti Rege, “Visible Light Source Temperature Estimation by Imaging”, *Proceedings of International Conference on Circuit, System, Electronics, Control and Signal Processing* (CSECS’07), 323-328, Cairo, Egypt, December 2007

- **Anagha Panditrao**, “Temperature Sensing and Focal Zone Determination In Solar Concentrators”, *International Conference on Instrumentation,*(INCON-2010) COEP, Pune, December 2004

- **Anagha Panditrao**, “Reflectance Meter”, *International Conference on Instrumentation,* (INCON-2010) COEP, Pune, December 2004
- **Anagha Panditrao**, Priti Rege “’Light Source Temperature Measurement by Imaging”, *International Conference on Instrumentation,* (INCON-2010) COEP, Pune, December 2004
- **No. of Books published with details** : NIL

Name: Vikas Dattatray Hajare

Date of Birth: 13/02/1976

Faculty ID of AICTE: 1-435916033

Education Qualifications:

- **Ph.D.** in Instrumentation (2016), SRTMU Nanded
- **M.Tech.** in Instrumentation (2006),University of Pune, India, Class: **First Class**
- **B.E.** in Instrumentation (1999) Shivaji University Kolhapur, India, Class: **First Class**

Work Experience:

Industry: 1yr **Teaching:** 20 yrs. **Research:** 6 yrs

Area of Specialization:

- Multivariable Control System
- Process Control
- Industrial Automation

Courses taught:

Undergraduate Level:

1. Automatic Control System
2. Control System Design
3. Project Engineering and Management
4. Industrial Automation
5. Reliability Engineering
6. Entrepreneurship Development
7. Process Modeling and Optimization
8. Process Data Analytics

Post Graduate Level:

1. Control System Design
2. Advanced Mathematics and Statistical Methods
3. Safety Automation System

Research Thesis: "Design and Experimental Investigation of Some Control Strategies for TITO Systems"

Projects Carried Out:

- **UG:** 65
- **PG:** 07

Publications:

International Journal

- **Hajare V.D., B.M. Patre,** "UDE based Sliding Mode Controller for TITO Systems with Experimental Validation" , ISA Transaction (Communicated).
- **Hajare V. D.**, A.A. Khandekar, B. M. Patre, "Discrete Sliding Mode Controller with Reaching Phase Elimination for TITO Systems", ISA Transactions, , 12 October 2016.
- **Hajare V. D. ,** B. M. Patre, A. A. Khandekar, G. M. Malwatkar "Decentralized PID design for TITO processes with experimental Validation", International Journal of Dynamics and Control, *DOI: 10.1007/s40435-016-0252-z* 2016.
- **Hajare V. D.**, B. M. Patre " Decentralized PID controller for TITO systems using characteristic ratio assignment with an experimental application", ISA Transactions, Vol. 59: (385-397), November 2015. (impact factor 2.9)
- Gadre Sayli, Joshi Aparna, **Hajare Vikas ,** "Automated Analysis and Diagnosis of Breast Cancer using Nuclear Pleomorphism", International Journal of Computer Science and its Applications, vol. 1. 2011.

National Journal

- Gadre Sayli, Joshi Aparna, **Hajare Vikas,** "Nuclei Segmentation for Breast Cancer Analysis", National Journal of Instrument Society of India, vol. 41. (1), January 2011.
- Upadhye Vaishali, **Hajare Vikas D,** "Automatic Control Valve Characteristics Plotter Using LabVIEW ", National Journal of Instrument Society of India, vol. 39. (6), June 2009.

International Conferences

- **Hajare V. D.** , B. M. Patre, "Design of PID controller based on reduced order model and characteristic ratio assignment method" (IEEE xplore, DOI: 10.1109/CCA.2013.6662927)
- **Hajare V. D.** , B. M. Patre, "Design of decentralized PI controller based on characteristic ratio assignment method for TITO process" (IEEE xplore, DOI: 10.1109/INDCON.2013.6725983)
- Pujari R. M., **Hajre V. D.**, "Analysis of ultrasound images for identification of chronic kidney disease stages", (IEEE xplore, DOI:10.1109/CNSC.2014. 6906704)
- J. P. Gawande, H. T. Patil, **V. D. Hajare,** C. G. Hatwar, "Dynamic Analysis of

Piezoelectric Stack Actuator", International IEEE Conference on 'Recent Advancement and Applications of Computer in Electrical Engg.' at Engineering College Bikaner, Rajasthan 24- 25 March 2007.

- **V. D. Hajare,** J. P. Gawande, "Automation of Binary Bubble Cap Distillation Column using Virtual Instrumentation (LabVIEW)", National Conference on Sensors and Signal Processing Applications NCSPA-07, Sept.6-8, 2007, DYPIET, Pimpri, Pune, pp.132-134.
- J. P. Gawande, **V. D. Hajare,** "Web-Based Virtual Laboratory for Control Experiments on a Flow Loop System", International Conference on Sensors, Signal Processing, Control and Communication 2008, Vishwakarma Institute of Technology, Pune.

Award:

1. Bronze cup and Most popular team cup winner in 4th Mitsubishi Electric cup competition at Manav Rachna University Faridabad (Delhi)
2. 10th Appreciation prize winner in 3rd Mitsubishi Electric cup competition at Nirma University Ahmedabad (Gujarat)

Name : Joshi Atul Krishnarao
Date of Birth : 22/07/1965
Unique id : 1-435718849
Education Qualifications : **Ph.D.** in Instrumentation(2019) SRTMU Nanded
M.Tech. in Instrumentation (2001)SRTMU Nanded ,Class: **First Class**
B.E. in Instrumentation (1989) Shivaji University Kolhapur, Class: **First Class with Distinction**

Work Experience
Teaching : 26 years **Industry :** 5 years **Research:** 7 Years

Area of Specialization : Transducers and signal conditioning, Embedded application

Courses taught at Under Graduate/ Post Graduate Level:
UG :
- Linear Integrated Circuits
- Transducer and signal conditioning
- Electronic instrumentation and system design
- Embedded product design.
- Avionics

PG:
- Advanced Electronic Instrumentation
- Vehicle Intelligence

Research guidance
No. of papers published in National/ International Journals/ Conferences : 18
Projects Carried out : 25
Patents : 5 filed
Technology Transfer : 1
Research Publications : 2
No. of Books published with details : 1 - Processor Architecture and Interfacing by WILEY Publication

Patents :

1. **Application No. 1226/MUM/2009** "Method and Apparatus to study fracture mechanical properties of Nail and its usage as a diagnostic tool"
2. **Application No. 2563/MUM/2015** " Double Focus Spot Pick-up"
3. **Application No. 201721017340 – 2017** Real-time system and method for monitoring and management of Asthma
4. **Application No. 201721017342 - 2017** "Trespasser inhibition control system and method"
5. **Application No. 202021038805 -2020 "**System for detecting flatness detecting

flatness on wheel of railway vehicles

Conference and Journal publications

- A. D. Gaikwad & J. P. Gawande & A. K. Joshi & R. H. Chile, “An intensity-modulated optical fibre sensor with concave mirror for measurement of displacement”, Journal of Journal of Optical Society of India 2013, J Opt (October–December 2013) 42(4):300–306
- Kajal S. Yedke1, A.K. Joshi2, “Blood Leakage Detection System During Hemodialysis”, International Journal of Pure and Applied Mathematics, Volume 120 No. 6 2018, 473-484
- Manisha Narwane, Atul Joshi, “Characterization of developed strain gauge type sensor for spirometer”, International journal of multidisciplinary education research, V.5.16, Vol-3,ISSUE 3(6), Mer.2014
- Manisha Narwane, Atul Joshi, “ Design And Development Of Strain Gauge Type Hand-Held Spirometer”, MITSOM PGRC KHOJ-Management-Journal ISSN-0976-8262,CAL ENGINEERING, Vol.59, No.11,Nov.2012
- A. K. Joshi, S. P. Madhe, V. M. Upadhye, , “Design of Portable Air Purge Level Transmitter with Built-in Calibration Feature”, IOP Conference series, doi:10.1088/1757-899X/1012/1/012043
- Atul K. Joshi, Balasaheb M. Patre, Sorting of Portable Small Metallic Components using Machine Learning Technique”, International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 23 (2018) pp. 16282-16287
- Payal Malawade, Atul Joshi, Swati Madhe, “In-sole Shoe Foot Pressure Monitoring for Gait Analysis”, 978-1-5386-4008-1/17/2017 IEEE
- Atul K. Joshi, Balasaheb M. Patre, Sorting of Portable Small Metallic Components using Machine Learning Technique”, International Journal of Scientific Research and Reviews ISSN, 7(4), 1547-1561
- Mansi M. Naphade, Atul K. Joshi, “Performance Testing of Peltier Element”, International Journal of Pure and Applied Mathematics, ISSN: 1314-3395Volume 120 No. 6 2018, 377-386
- Swapna Sumbhus, Atul Joshi, “Ultrasonic Aid for Visually Impaired People”, International Conference on Convergence of Technology – 2014, 978-1-4799-3759-2/14/©2014 IEEE
- S. P. Madhe, V. M. Upadhye, A. K. Joshi, ‘ Design of low cost IOT enabled universal wiring harness tester, “Journal of critical reviews, ISSN- 2394-5125, VOL 7, SSUE 18, 2020
- Krishnan K. Kutty, Vinay G. Vaidya, Vijay Soni , Atul K. Joshi, “Integrated Sensor System Framework for Enhanced Vehicle Safety”, Copyright © 2011 SAE INDIA, M20100108

Name: Mrs. Dipali Sudhir Ramdasi

Date of Birth: 25/10/1973

Unique ID: 1-435731901

Education Qualifications:

- PhD in Instrumentation and Control (2019), University of Pune, India
- M.E. in (E&TC) Spl (Instrumentation) (2001),University of Pune, India, Class: First Class
- B.E. in Instrumentation (1995) University of Pune, India, Class: First Class

Experience:

Teaching: 25 yrs. **Research:** 5 years

PhD Thesis Title: Parametric modeling of Sensing Techniques for Detection of Nitroaromatic Explosives

Area of Specialization:

- Embedded Systems
- Sensor Systems Modeling
- IoT and Automation

Courses taught:

Undergraduate Level:

- Embedded System Design
- Unit Operations and Power Plant Instrumentation
- Computer Organization
- Industrial Drives
- Internet of Things

Post Graduate Level:

- Advanced Embedded System
- Communication Protocols in Instrumentation
- Industrial Internet of Things

Research Guidance:

Masters: 12 students

Projects Carried Out:

- **UG:**39
- **PG:**9

Paper Presented/ Published: 37

Paper published in International journal: (8)

1. **'Qualitative Detection of Nitro-Aromatic Explosives using Supervised Learning Approach'** at International Journal of Innovative technology and exploring Engineering, Scopus Indexed, July 2019, Vol. 8, No. 9S2, pp.62-67 along with Dr. R. P. Mudhalwadkar, Retrieval Number: I10120789S219/19©BEIESP DOI : 10.35940/ijitee.I1012.0789S219
2. **'Detection of Nitro-aromatic Explosives with Parametric Regression Modeling Approach'** at International Journal of Control and Automation, Scopus Indexed, June 2018, Vol. 11, No. 6, pp.13-24 along with Dr. R. P. Mudhalwadkar
3. **'Parameter Controlled Gas Sensor System for Development of Sensor Model'**, Advances in Intelligent Systems and Computing, Progress in Advanced Computing and Intelligent Engineering, Scopus Indexed, Vol. 563, pp. 469-468, Feb 2018, Springer DOI: 10.1007/978-981-10-6872-0_43 along with Dr. R. P. Mudhalwadkar
4. **'Thin Film Sensor Materials for Detection of Nitro-Aromatic Explosives'**, IOP Conference Series: Materials Science and Engineering, Scopus Indexed, March 2018, Vol 323, No. 1, pp. 12003 along with Dr. R. P. Mudhalwadkar
5. **'A Review of Sensors for Explosive Detection'**, International Journal of Science Education and Research, ISSN. No 2229-5518, Volume 4, Issue 6, pp. 794-798, June 2013 along with Dr. R. P. Mudhalwadkar
6. **'Segmentation of Short Axis Cardiac MR Images Using PCA with Active Appearance Model',** published in International Organization of Scientific Research Journal of Computer Engineering, (IOSRJCE), Volume 7, Issue 6 (Nov. - Dec. 2012), pgs 25-30 along with Radhika Inamdar **,** ISBN 2278-8727, ISSN 2278-0661
7. **'HRV analysis using Wavelet Transform',** published in the International Journal of Advances in Management, Technology and Engineering Sciences, along with Rashmi Deshpande, Volume 1, Issue 6, March 2012, Pgs 36- 39
8. **'Pain Management System with Intermittent Boluses and Monitoring of Bio-signals'** at International Journal of Advances in Electronics Engineering, along with Vidya Hardare, Atul Chitale, pg no.s 153-157

Paper published in National journal: (2)

9. **'Microcontroller based ECG and Blood Pressure Simulator'**, published in the national journal, "Instrument Society of India" volume 37, December 2007
10. **'Development of pain management system with intermittent boluses'** in the National journal, "Instrument Society of India"

Papers published at International Conferences: (23)

11. **'Human Exhaled Breath Analysis for Renal Diseases using SVM Classifier'**, at IEEE International Conference on Communication and Signal Processing (ICCSP), 3rd April to 5th April 2018, Chennai, India along with Rasika Shirode
12. **'Qualitative Detection of Nitro-Aromatic Explosives using Supervised Learning Approach'** at Springer International Conference on Intelligent Computing and Smart Communication Technologies (ICSCT), 26th to 27th July 2019, Hyderabad, India along with Dr. R. P. Mudhalwadkar
13. **'Parameter Controlled Gas Sensor System for Development of Sensor Model'** at the Springer International Conference on Advanced Computing and Intelligent Engineering, ICACIE 2016, Bhuvaneshwar, Orissa, INDIA on 21 Dec -23 Dec 2016 along with Dr. R. P. Mudhalwadkar
14. **'Human Computer Interaction For Disabled Using Eye Motion Tracking'**, at IEEE International Conference on Energy System and Application, DYPIET Pimpri, Pune, India on 30 Oct - 01 Nov 2015 along with Uma Sambrekar
15. **'Estimation of Gaze For Human Computer**', at the IEEE International Conference on Industrial Instrumentation and Control ICIC-2015, College of Engineering, Pune, 28th May to 30th May 2015 along with Uma Sambrekar
16. **'A comparative study of the DC and AC model for thin film sensors for the detection of gases'** at the IEEE International Conference on Intelligent Systems and Control- ISCO 2015, Karpagam College of Engineering, Melmaruvathur, Coimbatore, India, 9th January to 10th January 2015 along with Dr. R. P. Mudhalwadkar
17. **'Empirical mode Decomposition for frequency analysis of Heart rate variability',** at the IEEE International Conference on Communication and Signal Processing-ICECS 2014, Karpagam College of Engineering, Melmaruvathur, Coimbatore, India, 13th February to 14th February 2014 along with Naziya Shaikh
18. **'Heart rate variability analysis using Empirical mode Decomposition',** at the International Confererence on Science and Technology(ICST -2k14)Indapur, India, 21st February to 22nd February 2014 along with Naziya Shaikh
19. **'Active Appearance Models for Segmentation of Cardiac MRI Data',** at the IEEE International Conference on Communication and Signal Processing-ICCSP'13, Melmaruvathur, Tamilnadu, India, 3rd April to 5th April 2013 along with Radhika Inamdar
20. **'HRV Analysis Using Wavelet Transform and Wigner - Ville Transform'** at IEEE EMBS Conference on Biomedical Engineering and Sciences, IECBES, Langkawi, Malaysia, 17th- 19th December 2012, along with Rashmi Deshpande
21. **'Extracting HRV Data from ECG Signal'** at the International Conference on Electrical Engineering and Computer Science, ICEECS 12, BITS Goa, India, 5th May, 2012 along with Rashmi Deshpande
22. **'HRV analysis using Wavelet Transform'** at International Conference on Current Trends in Management, Engineering, Computer Application and

Technology, ICCTCMECAT 2012, 23,24,25 March 2012, along with Rashmi Deshpande at Deogiri College, Aurangabad

23. **'Study of Heart Motion using Tagged MR Images'** at IEEE International Conference on Digital Convergence, ICDC 2011, February 2011, Chennai, India along with Revati Shriram, Nivedita Daimiwal.
24. **'Transmission of Multiple Physiological Parameters using Zigbee'** at IEEE International Conference on Digital Convergence, ICDC 2011, February 2011, Chennai, India along with Revati Shriram, Nivedita Daimiwal.
25. **'Noninvasive Continuous Measurement of BP Based on Peak Detection and Decomposition Analysis of PPG'** at IEEE International Conference on Digital Convergence, ICDC 2011, February 2011, Chennai, India along with Revati Shriram, Nivedita Daimiwal.
26. **'Neonatal Total Parenteral Nutrition Control Using Zigbee Protocol'** at IEEE International Conference on Digital Convergence, ICDC 2011, February 2011, Chennai, India along with Revati Shriram, Nivedita Daimiwal.
27. **'Noninvasive Blood Pressure Meter System for Long-Term Continuous Cuffless Measurement'** at IEEE International Conference on Digital Convergence, ICDC 2011, February 2011, Chennai, India along with Revati Shriram, Nivedita Daimiwal.
28. **'Wireless Fall Detection for elderly using Embedded System'** at IEEE International Conference on Digital Convergence, ICDC 2011, February 2011, Chennai, India along with Revati Shriram, Nivedita Daimiwal.
29. **'Pain Management System with Intermittent Boluses and Monitoring of Bio-signals'** at IEEE International Conference on Advanced Computing, Communication and Networks', 2011 along with Vidya Hardare, Atul Chitale
30. **'Wireless Transfusion Supervision and Analysis Using Embedded System'** at IEEE International Conference on Bioinformatics and Biomedical Technology (ICBBT 2010), Chengdu, China along with Revati Shriram, Asmita Wakankar, Nivedita Daimiwal
31. **'Continuous Cuffless Blood Pressure Monitoring Based on PTT'** at IEEE International Conference on Bioinformatics and Biomedical Technology (ICBBT 2010), Chengdu, China along with Revati Shriram, Asmita Wakankar, Nivedita Daimiwal
32. **'Automatic Control Valve Characteristics Plotter'** at IEEE International Conference on Instrumentation, INCON 2004 at Govt. College of Engg, Pune along with Mrs. Upadhye, Prof. A. K. Joshi
33. **'Spatial Radiation Measurement'** at IEEE International Conference on Instrumentation, INCON 2004 at Govt. College of Engg, Pune along with Mrs. Ruikar, Prof. A. K. Joshi

Papers published at National Conferences: (4)

34. **'Development of pain management system with intermittent boluses'** at NSI 35, Belgaum, Karnataka, from 7th -9th January 2011 along with Vidya Hardare, Atul Chitale organized by Instrument Society of India.
35. **'Microcontroller based ECG and Blood Pressure Simulator'** at NSI-31, Gwalior, in 2006, organized by Instrument Society of India, along with Mrs. Wakankar, Mrs. Daimiwal, Mrs. Chandratreya
36. **'PLC Based Gray Water Treatment and Recycling System'** at ACI – 2005, Chennai along with Mrs. Upadhye
37. **'Process Plant Simulation'** at National Conference on Sensors and Instrumentation, Hyderabad, 2001 along with Prof. Agashe

Name: Harishchandra T. Patil
Date of Birth: 28/10/1972
AICTE Faculty ID: 1-435731909
Qualification:
B.E. Instrumentation and Control
M.E. Electrical(Microprocessor System and Applications)

Experience:
Teaching-25 yrs
Area of Interest: Digital Signal and Image Processing
E mail Id: harish.patil@cumminscollege.in
Contact No: 9423223109
Courses taught at Under Graduate/ Post Graduate Level:

- Instrument System and design
- Project Planning Estimation and Assessment
- Process Instrumentation
- Microprocessor Techniques
- Power Electronics
- Digital Signal processing,
- Opto Electronics Instrumentation
- Signal & System,
- Automatic Control Systems
- Modern Control Theory
- Industrial Instrumentation
- Transducers and Signal Conditioning
- Transducer-I
- Transducer-II
- Sensors and transducers-I
- Sensors and transducers-II
- Principles of Sensors and Transducers
- Building Automation
- Advanced Digital Signal Processing.
- Digital Image Processing.
- Numerical Method
- Control System-1

Courses taught at Post Graduate Level:

- Advanced Digital Signal Processing.
- Digital Image Processing.
- Bio-Informatics.
- Mathematical Methods in Instrumentation.

Research guidance:

- No. of papers published in National/ International Journals/ Conferences: 32

- Masters- 08

Projects Carried :

- Liveness detection in fingerprint recognition technique using first order texture features.
- Determination of Bradycardia and Tachycardia from ECG signal using Wavelet Transform
- ECG Data Reduction using Thresholding and LZW Method.
- Multiresolution Analysis for Computer-Aided Mass Detection in Mammogram Using Pixel Based Segmentation Method.
- Breast Cancer Classification with statistical Features of Wavelet Coefficient of Mammograms.
- Wavelet Based ECG Signal De-noising.
- ECG Data Compression for a Portable ECG Recorder and Transmitter.
- Neuromuscular Disease Classification by Wavelet Decomposition Techniques.
- Automated Polyp Detection in Colon Capsule Endoscopy.
- Development and Evaluation of a Portable Audiometer with Remote Health Care Facility.
- Biomedical Data Hiding Based on Contrast Mapping.
- EMG Signal Analysis for the Biceps Brachialis using FFT and PSD Analysis.
- Analysis of Cough Sound for Pneumonia Detection.
- Clothing Pattern Recognition using Features extraction of wavelet coefficients for Visually Impaired People

Research Publications:1

" New Approach of Threshold Estimation **for Denoising ECG Signal Using** Wavelet Transform" , IEEE INDICON, IIT Bombay, Dec. 2013.

Papers Presented/ Published: 31

1. **HARISHCHANDDRA.T.PATIL**, JAYANAND P. GAWANDE*, VIKAS D. HAJARE, CHANDAN G. HATWAR, "Dynamic Analysis of Piezoelectric Actuator Using MATLAB" at IEEE sponsor International Conference on "Recent Advancements & Applications of Computers in Electrical Engineering" organized by Engineering College, Bikaner on 24th & 25th March, 07.
1. **Harishchanddra T. Patil,** Jayanand P Gawande "Characterization of Magnetoresitive Sensor for Flow Measurement" at "International Conference on Sensors, Signal Processing, Communication, Control & Instrumentation" Dates: 3-5 January 2008 Organized by Instrumentation Engineering Department, Vishwakarma Institute of Technology, Pune
2. **Prof. Harishchandra Patil** , Mrs. Nivedita Daimiwal, "Level Measurement using Capacitive Sensor and Detector as Maxwell's bridge" at International

Conference on Sensors, Signal Processing, Communication, Control & Instrumentation" Dates: 3-5 January 2008 , Organized by Instrumentation ngineering Department Vishwakarma Institute of Technology, Pune

3. Manju Kulkarni, **Harishchandra Patil,** "Minutiae-based fingerprint recognition technique for person identification" at National Symposium on Instrumentation (NSI-35) at Visvesvaraya Technological University, Karnataka, on 7th to 9th January 2011.
4. Ashwini Kulkarni, **Harishchandra Patil,** " Automatic ECG characteristics analysis using Wavelet Transform" at National Conference on recent Trends in Technology-2011 at J.T.Mahajan College of Engg, Faizpur, on 03 Feb 2011.
5. Manju Kulkarni, **Harishchandra Patil,** "Liveness detection in fingerprint recognition technique using first order texture features" in National level conference held at Bharat Ratna Indira Gandhi College of Engineering , Solapur on 26th March 2011.
6. Ashwini Kulkarn, **H. T. Patil,** " Determination of Bradycardia and Tachycardia from ECG signal using Wavelet Transform" International Conference on Electronics and Communication Engg. 1,2 Oct 2011.
7. Archana Kestaki, **H.T.Patil,** " A robust approach for ECG signal compression using Wavelet Transform" in "Futurizm-12" arranged by Pune District Education Associations College of Engineering, Manjari(Bk.), Pune, Feb. 10-11,2012 (National Conference)
8. Archana Kestaki, H.T.Patil, " ECG signal compression using thresholding of Wavelet Coefficients" in "NCONCPR-2012" arranged by Sinhgad Technical Education Society's Sinhgad Academy of Engineering, Kondhwa(Bk), Pune , 16-18th March, 2012. (National Conference).
9. Archana Kestaki, H.T.Patil, " ECG Data Reduction using Thresholding and LZW Method, International Journal of Advanced and Innovative Research (IJAIR), 2012, ISSN:2274-7844.
10. Ashwini Kulkarni, **H. T. Patil,** " Determination of Bradycardia and Tachycardia from ECG signal using Wavelet Transform" International Conference on Electronics and Communication Engg. 1,2 Oct 2011.
11. Ashwini Kulkarn,**H. T. Patil,**"Determination of Bradycardia & Tachycardia from ECG signal using wavelet transform" IJESS-International Journal-2012, ISSN:2231-5969, Volume 1 Issue 2, 68-73
12. Pragathi Kishore J., **H. T. Patil**, "Segmentation method for ROI detection in mammographic images using wiener filter and kittler's method" International Journal Feb/May 2013, ISSN: 0975- 8887, International Conference on Recent Trends in engineering & Technology - 2013(ICRTET'2013) .
13. Pragathi Kishore J. **H. T. Patil**, " Multiresolution Analysis for Computer-Aided Mass Detection in Mammogram Using Pixel Based Segmentation Method ", International Conference on Recent Trends in Information Technology (ICRTIT), 2013.

14. **H.T.Patil**, " Feature Extraction and Segmentation of White Blood Cell", International Journal of Engineering Reseach & Technology, ISSN:2278-0181, June 2013.
15. **H.T.Patil**, R.S.Holambe, " New Approach of Threshold Estimation for Denoising ECG Signal Using Wavelet Transform" , IEEE INDICON, IIT Bombay, Dec. 2013.
16. Shital Lahamage, **H. T. Patil,** " Study of feature Extraction of Mammograms using Segmentation", International Conference on Science and Technology (ICST-2K14), Feb21- 22, 2014.
17. Shital Lahamage, **H. T. Patil,** "Study of statical features of Wavelet Coefficient of Mammograms for Breast Cancer Classification", 3rd international Conference on Recent Trends in Engineering and Technology (ICRTET'2014), 28-30 March, 2014.
18. Shital Lahamage, **H. T. Patil,** "Breast Cancer Classification with statistical Features of Wavelet Coefficient of Mammograms" , International Journal of Scientific Engineering and Technology Research (IJSETR-2014), Volume 03, Issue 06, May 2014. ISSN 2319-8885. Pg: 0920-0926
19. Chitrangi Sawant , **H. T. Patil,** " ECG Signal Denosing using Wavelet Transformation", International Journal of Modern Engineering Research (IJMER) , March 2014, Vol.4, ISSN:2275-7781, pg: 92-95
20. Chitrangi Sawant , **H. T. Patil,** " Performance Comparison of Wavelet based ECG signal Denoising"Published in International Journal of Advance Foundation and Research in Computer (IJAFRC), Volume 1, Issue 5, May 2014. ISSN 2348- 4853.
21. Chitrangi Sawant , **H. T. Patil,** "Wavelet Based ECG Signal De-noising", International Journal of Scientific Engineering and Technology Research (IJSETR-2014), Volume 03, Issue 09, May 2014. ISSN 2319-8885, pg.:653-1661 .
22. Dipti Pande, **H.T.Patil,** " ECG Data Compression for a Portable ECG Recorder and Transmitter", International Conference on Advances in Communication and Computing Technologies (ICACACT - 2014) Padmabhushan Vasantdada Patil Pratishtan's College of Engineering, Mumbai, 2014.
23. Dipti Pande, **H.T.Patil,** "Analysis and Enhancement of ECG Data Compression And Reconstruction Method", National Conference on Digital Image & Signal Processing (NCDISP - 2015) , Department of Computer Science and Department of Electronic Science, MAEER's Arts, Commerce & Science College, Pune.
24. Kalwa Shrawanti, **H.T.Patil,** "Neuromuscular Disease Classification by Wavelet Decomposition Techniques ", IEEE International Conference on Communication and Signal Processing, Adhiparashakti Engg. college,

Melmaruvathur, Tamilnadu, Jan- 2015.

25. Snehal Ubhale, **H.T.Patil,** " Automated Polyp Detection in Colon Capsule Endoscopy" , International Organization of Scientific Research, National Conference on Innovation in Engineering Science and Technology (NCIEST-2015), Rajashri Shahu College of Engineering, Pune, 28-29 December 2015.
26. Ritu Rani, **H.T.Patil**, " Development and Evaluation of a Portable Audiometer with Remote Health Care Facility", International Conference on recent advanecs in Electronics, Computer Science and Information Technology (ICECSIT), Pune, 24April 2016.
27. Ruchita Patil, H.T.Patil, " Biomedical Data Hiding Based on Contrast Mapping", International Journal for Research in Technological Studies, Vol. 3, Issue 6, May 2016.
28. Dipti Inamdar, H.T.Patil, "EMG Signal Analysis for the Biceps Brachialis using FFT and PSD Analysis", International Conference on Reserach Trends in Engineering ,Applied Science and Management, June 2017.
29. Dipti Inamdar, H.T.Patil, "EMG Signal Analysis for the Biceps Brachialis using FFT and PSD Analysis", International Journal of Scientific Engineering and Technology Research (IJSETR-2014), June 2017. ISSN 2394-3386
30. Rajashree Pingale, H.T.Patil, " Analysis of Cough Sound for Pneumonia Detection", International Conference on Reserach Trends in Engineering, Applie Science and Management, May 2017.
31. Tejashree Sonwane, H.T.Patil, " Clothing Pattern Recognition using Features extraction of wavelet coefficients for Visually Impaired People", International Conference on Trens in Electronics and Informatics (ICOEI 2018) , SCAD College of Engginring and Technlogy, Cheranmahadevi, Tirunelceli, Tamilnadu, India, 11- 12 May 2018

Name: Pratima Kulkarni
DOB: 3rd July 1975
Unique id:1-436335615
Designation: Assistant Professor
Qualification: B.E. Instrumentation
M.E Instrumentation (Biomedical Instrumentation)
Experience: Teaching: 25 years

Area of Interest:

- Linear and Digital Electronics,
- Instrument System Design,
- Control Systems,
- Opto-electronics,
- MEMS

Courses taught at UG level:

- Analog Techniques,
- Linear Techniques,
- Digital Techniques,
- Automatic Control systems,
- Electronic Instrumentation,
- Instrument System Design,
- Industrial Drives,
- Photoelectronic Instrumentation,
- Optoelectronic Instrumentation,
- Power Electronics and Drives
- MEMS

No. of Papers published:

- National Level – 02
- International Level – 02

Paper Presented/ Published:

- 'Designing of Thermal cycler for PCR' - Research paper (3rd International Conference on Computing, Communication, Control and Automation, ICCUBEA 2017)
- 'Application of light emitting diode as detector' - Research Paper (ISOI International Conference, INCON 04)
- 'Light emitting diode as photovoltaic cell and LDR' - Research Paper (National Conference, ACI 05)
- 'Power and Dosage Calculation of Low Level Laser Therapy' - Research Paper (National Conference, NSI35)

Projects carried out: 23

Patents: 1 (Published)

- **Application No: 201921026889** "Astute Footwear Device With Integrated Sensor"

- Manohar Upadhye
- **Date of Birth :** 30/08/1974
- **Unique ID :** 1- 435916037

- **Educational Qualification:**
  PhD(Instrumentation & Control) completed on 14th July 2018
  ME((Instrumentation & Control) December 2001
  BE (Instrumentation & Control) 1995

Work Experience: Teaching: 15 years **Research :** 5years

Area of Specialization: Process Instrumentation

Courses taught at Under Graduate/ Post Graduate Level

1. Control System Components
2. Process Loop Components
3. Process Instrumentation
4. Instrumentation in Agriculture and Food Processing
5. Instrumentation in Power Plants
6. Robotics and Process Automation
7. Instrument Devices and Technology

Research guidance

- No. of papers published in National/ International Journals/ Conferences: 18
- Master : 05

Projects Carried out:

- **UG:** 15
- **PG:** 05

Research Publications: 18

Paper Presented/ Published

1) Published a paper titled "**Use of Demo Based Learning As An Active Learning Strategy"** in Pedagogy cell bulletin of Cummins College of Engineering for Women, Pune. AY 2020-21
2) Published a paper in Design of Portable Air Purge Level Transmitter with Built-in Calibration Feature" in the International Journal IOP Conference Series: Materials Science and Engineering which is scopus indexed Jan 2021
3) Presented and published a paper titled "**A Novel Portable Programmable Air Purge Level Transmitter**" in the 2 days Virtual International Conference on Robotics, Intelligent Automation and Control Technologies (RIACT 2000) on **2nd**

and 3rd October 2020 organized by School of mechanical Engineering, VIT Chennai.

4) Presented and published a paper titled "Design of Low Cost IoT Enabled Universal Wiring Harness Tester" in the 2nd International Conference on Innovations in Communication Computing and Sciences (ICCS-2020) to be held on **July 24-25, 2020** in online mode. The paper is published in Scopus indexed Journal of Critical Reviews, ISSN No. 2394-5125, Vol. 7, Issue 18. The conference was organized by Chandigarh Engineering College, Landran, Mohali.
5) Published a paper on "Effect of Temperature and Pressure on the Thickness Mode Resonant Spectra of Piezoelectric Ceramic", in the International Journal IOP Conference Series: Materials Science and Engineering The journal is indexed in Scopus (Elsevier) and the CPCI (Thomson Reuters, Web of Science). **2017**
6) Published a paper on "Effect of Temperature and Pressure Variations on the Resonant Frequency of Piezoelectric Material" in **the Journal of Measurement and Control** (SCI indexed), Sage publications available online on September 9, **2016**.
7) Presented a paper on "Step Approach for Finite Element Modeling of Ultrasound Transducer" at IEEE sponsored International Conference on Automatic Control and D**ynamic Optimization Techniques (ICACDOT 2016) on** September 9-10, 2016 organized by International Institute of Information Technology, Hinjawadi, Pune, India. Expected to be included in IEEE explore

8) Presented a paper on "Design and simulation of microcantilevers for detection of pathogens" at **IEEE sponsored International conference** ISPTS 2. on 10th March **2015**. Available on IEEE explore

9) Published a paper on "Characterization & feature extraction of pancreatic duct using Binarization of MRCP images" at ICCSP'13, **IEEE International Conference** 3rd , 4th, 5th April **2013**
10) Presented a paper on "Fusion of PET & CT images using wavelet transform" in **IOSR JOURAL** OF COMPUTER ENGINEERING (IOSR-JCE),ISSN : 2278-0661,ISBN : 2278-8727, Feb- **2013**
11) Published a paper on "Analysis of morphological shape of pancreatic duct in pancreatic disease diagnosis" in **National Conference** Dec-**2012** (ACE 2012)
12) Published a paper on "Texture Analysis of MRCP Images for Cronic Pancreatitis Detection" at National **Conference** on Instrumentation, Control and Signal Processing- ICSP-**2013**(2013-14)\
13) Presented one paper on "Gray water treatment & recycling system" at 10th **National Seminar** on Physics and Technology of Sensors held at Pune from 4th to 6th March **2004.**
14) & 15) Presented **two papers** on "Automatic control valve characteristics plotter" & "Microcontroller based Gray water treatment & recycling system" at International Conference on Instrumentation INCON-2004 at Pune during 19th to 21st December 2004.

16) & 17) Presented **two papers** on “Automatic Control Valve Characteristics Plotter using LabVIEW” & “Control of Model Heat Exchanger “ at **National Syposium** on Instrumentation (NSI-32) organized by ISOI & KSR college of Engg Tamilnadu from 23 rd to 26th Oct 2007.

15)

18) The paper on “Automatic Control Valve Characteristics Plotter using LabVIEW” is published in **the National Journal of Instrument Society of India**.Vol.39 No.2 June 2009

Name: Dr. Revati Shriram
Date of Birth: 27th January 1978
Unique ID: 1-436335753
Educational Qualification: PhD Electronic Engineering

Work Experience: Teaching Experience – 16 Years, Industrial Experience – 1 Year

- ***Teaching Experience:*** Asst Professor, Dept of Instrumentation and Control, MKSSS's Cummins College of Engineering for Women, Pune, since 2002.
- ***Industrial Experience:*** Data Diagnostic Engineer, Dept of Data Link and Diagnostics, Cummins Diesel, Columbus, USA, Jun 2000-Aug 2000 and Mar 2001-Dec 2001

Area of Specialization: Biomedical Signal and Image Processing, Biomedical Instrumentation and Data Analytics

Courses Taught: Following are the details of courses taught at UG and PG level

- **UG Level:** Digital Techniques, Digital Control, Digital Image Processing & Control System-I
- **PG Level:** Medical Imaging and Image Processing

Research Guidance: Following are the details of research guidance at UG and PG level

No of Papers Published: Conference Publications: 36, Journal Publications: 27 and Book Chapters: 08
Masters: Worked as a Project Guide for 9 PG students
PhD: Nil

Projects Carried Out: Worked as a Project Guide for 9 PG students and 20 UG Project Groups

Patents: 3 Patents are filed till date and the details are as follows

1. "System and Method for Prognosis of Parkinson's Disease", Application No: 201721034084
2. "Non-Invasive System for Detection of Parkinson's Disease and Method Therefor", Application No: 201821047405
3. "System for estimating brain aging and a Method thereof", Application No: 201821014906

Research Publications: Following are the details of Research Publications in Journal and Conference

Conference Publications

- Akshada Shinde, Rashmi Atre, Anchal Singh Guleria, Radhika Nibandhe & Revati Shriram, “Facial Features based Prediction of Parkinson’s Disease”, IEEE International Conference for Convergence of Technology (I2CT), 7th – 8th April 2018, Pune.
- Apurwa Jagtap & Revati Shriram, “Performance Parameter based comparison of Various Transforms”, IEEE 3rd International Conference on Computing, communication, Control & Automation, ICCUBEA 2017, 17th -18th August, Pune, India.
- Samruddhi Deshpande & Revati Shriram, “Real Time Text Detection and Recognition on Hand Held Objects to Assist Blind People”, IEEE International Conference on Automatic Control and Dynamic Optimization Techniques, ICACDOT 2016, Pune, India.
- Mrugali Bhat, Sharwari Inamdar, Devayani Kulkarni, Gauri Kulkarni & Revati Shriram, “Methodology for Detection of Parkinson's Disease by Analysis of Hand Tremors” IEEE International Conference on Communication and Signal Processing ICCSP'17, April 6th – 8th April 2017, Chennai, Tamilnadu, India.
- Apurwa Jagtap, Revati Shriram & H. T. Patil, “Comparison of Decomposition and Reconstruction of 2D Signal using Slantlet Transform and DCT”, IEEE International Conference on Communication and Signal Processing ICCSP'17, April 6th – 8th April 2017, Chennai, Tamilnadu, India.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, “Statistical Analysis of Connectivity Measures of Electroencephalogram during Colour Word Reading Interference”, International Conference on Emerging Novelties and Vistas in Space Technologies and Applications, ENVISTA 2015, 25th – 27th February 2016, Sathyabama University, Chennai, India.
- Nivedita Daimiwal, M. Sundhararajan & Revati Shriram, “Wavelet Approch for Detection of Functional Brain Activity in Prefrontal Lobe using Cranial PPG Signal”, International Conference on Emerging Novelties and Vistas in Space Technologies and Applications, ENVISTA 2015, 25th – 27th February 2016, Sathyabama University, Chennai, India.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, “Statistical Analysis of Pulse Acquired from various Body Sites using Piezoelectric and Optical Transducer”, Control Instrumentation Systems Conference CISCON 2015, 2nd – 4th November 2015, MIT, Manipal, Karnataka, India.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, “Cranial PPG Brain Signal based Cardiovascular Parameter Estimation”, Control Instrumentation Systems Conference CISCON 2015, 2nd – 4th November 2015, MIT, Manipal, Karnataka, India.
- Nivedita Daimiwal, M. Sundhararajan & Revati Shriram, “Design of Cranial PPG Sensor for DC and PWM Excitation in Near Infrared Spectroscopy”, Control Instrumentation Systems Conference CISCON 2015, 2nd – 4th November 2015, MIT, Manipal, Karnataka, India.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, “Wave Transit Time Based Cuff less Long-Term Continuous Blood Pressure Measurement”, Elsevier, International Conference on Recent Trends in Engineering Sciences (ICRTES’13), 23-24 November 2013, Nashik, Maharashtra, India.

- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, “Application of High & Low Brightness LEDs to Human Tissue to Capture Photoplethysmogram at a Finger Tip”, IEEE International Conference on Convergence of Technology I2CT 2014, April 6th – 8th, 2014, Pune, Maharashtra, India.
- Nivedita Daimiwal, M. Sundhararajan & Revati Shriram, “Comparative Analysis of LDR and OPT 101 Detectors in Reflectance Type PPG sensor”, IEEE International Conference on Communication and Signal Processing ICCSP'14, April 3rd – 5th, 2014, Chennai, Tamilnadu, India.
- Nivedita Daimiwal, M. Sundhararajan & Revati Shriram, “Comparative Analysis of LDR and OPT 101 Detectors in Reflectance Type PPG sensor”, IEEE International Conference on Communication and Signal Processing ICCSP'14, April 3rd – 5th, 2014, Chennai, Tamilnadu, India.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, “Effect of Change in Intensity of Infrared LED on a Photoplethysmogram”, IEEE International Conference on Communication and Signal Processing ICCSP'14, April 3rd – 5th, 2014, Chennai, Tamilnadu, India.
- Sukhada Unde & Revati Shriram, “Coherence Analysis of EEG Signal Using Power Spectral Density”, IEEE Fourth International Conference on Communication Systems and Network Technologies CSNT 2014, Apr 7th -9th 2014, Bhopal, India.
- Supriya Shete & Revati Shriram, “Comparison of Sub-band Decomposition and Reconstruction of EEG Signal by Daubechies9 and Symlet9 Wavelet”, IEEE Fourth International Conference on Communication Systems and Network Technologies CSNT 2014, Apr 7th -9th 2014, Bhopal, India.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, “Red LED Based Optical Sensor to Capture Photoplethysmogram at Various Sites”, Annamalai University National Conference in Advanced Materials and It's Applications NCAMA 2014, April 4th – 5th, 2014, Annamalainagar, Tamilnadu, India.
- Revati Shriram, M Sundhararajan & Nivedita Daimiwal, “EEG based Cognitive Workload Assessment for Maximum Efficiency”, Second International Conference on Emerging Trends in Engineering (SICETE), Feb 2013, Jaisingpur, India.
- Shalaka Abhyankar & Revati Shriram, “Mandibular Cortical Width Measurement in an Orthopentogram for Osteoporosis Prediction”, IEEE International Conference on Communication and Signal Processing – ICCSP 2013, Apr 3rd- 5th 2013, Chennai, India.
- Subhangi Dighe & Revati Shriram, “Dental Biometrics for Human Identification Based on Dental Work And Image Properties In Periapical Radiograph”, IEEE International Conference TENCON 2012, 19-22 Nov, 2012, Cebu, Philippines.
- Swati Gaiyakwad & Revati Shriram, “Wireless Transmission of BP and ECG for Ambulatory Application”, International Conference on Computational Biosciences and Bio-informatics’, ICCBBI July 2011, Bhubaneswar, India.

- Swati Gaiyakwad & Revati Shriram, “Wireless Transmission of ECG and BP Signal”, National Conference on Biomedical Electronic Engineering and Bioinformatics 2011, Jan 10th -11th 2011, Yavatmal, India.
- Subhangi Dighe & Revati Shriram, “Dental Biometrics: A Technique For Human Identification”, National Conference, AISSMS, 2011, Pune, India.
- Nivedita Daimiwal, Dipali Ramdasi, Revati Shriram & Asmita Wakankar, “Wireless Transfusion Supervision and Analysis using Embedded System”, IEEE International Conference on Bioinformatics and Biomedical Technology, ICBBT 2010, Chengdu, China.
- Revati Shriram, Asmita Wakankar, Nivedita Daimiwal & Dipali Ramdasi, “Continuous Cuffless Blood Pressure Measurement based on PTT”, IEEE International Conference on Bioinformatics and Biomedical Technology, ICBBT 2010, Chengdu, China.
- Leena Sharma, Revati Shriram & Sayali Gadre, “iPHR-Transforming Healthcare Through IT”, International Conference on Telemedicine, TELEMEDICON – 09, 6th -7th Nov, Pune, India.
- Sayali Gadre, Leena Sharma & Revati Shriram, “eHome – High-tech Healthcare at your Doorstep”, International Conference on Telemedicine, TELEMEDICON – 09, 6th -7th Nov, Pune, India.
- Revati Shriram, Sayali Gadre & Leena Sharma, “Telepsychiatry – Mental Healthcare for Rural Area”, International Conference on Telemedicine, TELEMEDICON – 09, 6th -7th Nov, Pune, India.
- Nivedita Daimiwal, Mrunal Chandratreya & Revati Shriram, “Real Time ECG Acquisition and FFT Analysis”, National symposium on Instrumentation, Oct 2006, NSI-31, Gwalior, India.
- Mrunal Chandratreya, Revati Shriram & Nivedita Damiwal, “Real Time ECG Monitoring System for Intensive Care Unit (ICU)”, National symposium on Instrumentation, Oct 2006, NSI-31, Gwalior, India.
- Revati Shriram, Nivedita Daimiwal & Mrunal Chandratreya, “Telemedicine: Innovative Technology for the Rural Health Care”, National symposium on Instrumentation, Oct 2006, NSI-31, Gwalior, India.
- Asmita Wakankar, Revati Shriram & Mrunal Chandratreya, “Flow Spirometry with BTPS Correction for Forced Vital Capacity Measurement”, IEEE International Conference IMAE-2005, Jan 2005, Pune, India.
- Revati Shriram, Asmita Wakankar, & Mrunal Chandratreya, “Computerized Finger Photoplethysmography”, IEEE International Conference IMAE-2005, Jan 2005, Pune, India.
- Asmita Wakankar, Revati Shriram & Mrunal Chndratyreya, “Microcontroller Based Photoplethysmography Unit”, International Conference on Instrumentation, INCON – 2004, Pune, India.
- Revati Shriram, Asmita Wakankar, & Atul Joshi, “Forced Expiratory Volume Measurement Using Flow Type of Spirometer”, International Conference on Instrumentation, INCON – 2004, Pune, India.

Journal Publications

- Revati Shriram, V. Vijay Baskar, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, “Connectivity Analysis of Brain Signals during Colour Word Reading Interference”, Biomedicine, June 2018, Vol-38, No-2, pp: 229-243, ISSN: 0970-2067.
- Nivedita Daimiwal, Poorna Pushpakala, Betty Martin, M. Sundhararajan & Revati Shriram, “Design of Optical System for Measurement of SpO2 using Systolic Amplitude based Plethysmography Signal”, Biomedicine, June 2018, Vol-38, No-2, pp: 249-253, ISSN: 0970 2067.
- Revati Shriram, V. Vijay Baskar, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, “Statistical Analysis of Connectivity Measures of Electroencephalogram during Congruent and Incongruent Stroop Task”, International Journal of Pure and Applied Mathematics, January 2018, Vol-118, No-17, pp: 107-122, ISSN: 1311-8080.
- Revati Shriram, V. Vijay Baskar, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, “Statistical Analysis of Connectivity Measures of Electroencephalogram during Congruent and Incongruent Stroop Task”, International Journal of Pure and Applied Mathematics, January 2018, Vol-118, No-17, pp: 107-122, ISSN: 1311-8080.
- Nivedita Daimiwal, Poorna Pushpakala, Betty Martin, M. Sundhararajan & Revati Shriram, “Wavelet Approach for Detection of Functional Brain Activity in Prefrontal Lobe using Cranial PPG Signal”, International Journal of Pure and Applied Mathematics, January 2018, Vol-118, No-17, pp: 123-134, ISSN: 1311-8080.
- Revati Shriram, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, “Comparison of Acceleration Plethysmogram Acquired using Optical Signal and Pressure Signal”, International Journal of Signal Processing, Image Processing and Pattern Recognition, September 2017, Vol-10, No-9, pp: 57-68, ISSN: 2005-4254.
- Nivedita Daimiwal, Betty Martin, M. Sundhararajan & Revati Shriram, “Design and Implementation of Cranial PPG Sensor for Brain Mapping using fMRI as a Gold Standard”, International Journal on Intelligent Electronic Systems, January 2017, Vol-11, Issue-1, pp: 8-13, ISSN: 0973-9238.
- Revati Shriram, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, “Future of CPPG-EEG Concurrent Modality”, International Journal on Intelligent Electronic Systems, January 2017, Vol-11, Issue-1, pp: 19-26, ISSN: 0973-9238.
- Revati Shriram, M. Sundhararajan, Supriya Shete & Nivedita Daimiwal, “Statistical Features based comparison of Analysis and Synthesis of Normal and Epileptic Electroencephalogram for various Wavelets”, Turkish Journal of Electrical Engineering and Computer Science, May 2017, Vol-25, No-3, pp: 1795-1806, ISSN: 1300-0632.
- Nivedita Daimiwal, Betty Martin, M. Sundhararajan & Revati Shriram, “Analysis of radio frequency reflectance type PPG sensor based on systolic amplitude and source wavelength” Biomedical Research- India, December 2016, No-25, pp: S371-S375, ISSN: 0970-938X.
- Revati Shriram, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, “Effect of Source Wavelength on Second Derivative of Finger Photoplethysmogram in

Healthy Young Female Volunteers" Biomedical Research- India, December 2016, No-25, pp: S454-S459, ISSN: 0970-938X.

- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, "Statistical Analysis of Pulse Acquired from Various Body Sites using Piezoelectric and Optical Transducer", International Journal of Control Theory and Applications (IJCTA), January 2015, Vol-8, no-3, pp-831-838, ISSN: 0974-5572.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, "Cranial PPG Signal Based Cardiovascular Parameter Estimation", International Journal of Control Theory and Applications (IJCTA), January 2015, Vol-8, no-3, pp-839-845, ISSN: 0974-5572.
- Nivedita Daimiwal, M. Sundhararajan & Revati Shriram, "Design of Cranial PPG Sensor for DC and PWM Excitation in Near Infrared Spectroscopy", International Journal of Control Theory and Applications (IJCTA), January 2015, Vol-8, no-3, pp-971-975, ISSN: 0974-5572.
- Nivedita Daimiwal, M. Sundhararajan & Revati Shriram, "NIRS based PPG sensor for detection of oxy–Hb and deoxy-Hb change during activity", International Journal of Applied Engineering Research (IJAER), April 2015, Vol – 10, No-7, pp: 14969-14976, ISSN: 0973-4562.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, "Coherence analysis of pressure pulse and photoplethysmogram at various sites", International Journal of Applied Engineering Research (IJAER), April 2015, Vol – 10, No-7, pp: 14959-14968, ISSN: 0973-4562.
- Supriya Shete & Revati Shriram, "Statistical Feature based Activity Classification", International Journal of Computer Applications IJCA, June 2014, Vol-96, pp-49-52, ISSN: 0975-8887.
- Sukhada Unde & Revati Shriram, "PSD based Coherence Analysis of EEG Signals for Stroop Task", International Journal of Computer Applications IJCA, June 2014, Vol-95, pp-50-55, ISSN: 0975-8887.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, "Brain Connectivity Analysis Methods for Better Understanding of Coupling", International Journal of Computer Science & Information Security (IJCSIS), November 2012, Vol-10, Issue-11, pp-16-22, ISSN: 1947-5500.
- Nivedita Daimiwal, M. Sundhararajan & Revati Shriram, "Applications of fMRI for Brain Mapping", International Journal of Computer Science & Information Security (IJCSIS), November 2012, Vol-10, Issue-11, pp-23-27, ISSN: 1947-5500.
- Shubhangi Jadhav & Revati Shriram, "Dental Biometrics used in forensic Science", Journal of Engineering Research and Studies, 2012, Vol-3, Issue-1, pp-26-29, ISSN: 0976-7916.
- Shalaka Abhyankar & Revati Shriram, "Orthopentogram Based Osteoporosis Prediction", International Journal of Engineering Research and Applications (IJERA), November 2012, Vol-2, Issue-6, pp-753-758, ISSN: 2248-9622.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, "Human Brain Mapping Based on COLD Signal Haemodynamic Response and Electrical Neuroimaging", International Journal of Computer Applications (IJCA), February 2013, Vol-10, No-6, pp-27-31, ISSN: 0975-8887.

- Revati Shriram & Shalaka Abhyankar, “Orthopantogram based Evaluation of Osteoporosis by Studying Jaw Bone Changes”, International Journal of Computer Applications (IJCA), March 2013, Vol-66, pp-36-39, ISSN: 0975-8887.
- Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, “EEG based cognitive workload assessment for maximum efficiency”, IOSR Journal of Electronics & Communication Engineering (IOSR-JECE), February 2013,Vol-7, pp-34-38, ISSN: 2278-2834, ISBN: 2278-8735.
- Nivedita Daimiwal, M. Sundhararajan & Revati Shriram, “Non Invasive FNIR and FMRI system for Brain Mapping”, International Journal of Scientific and Research Publications (IJSR), February 2013, Vol-3, Issue-2, pp-1-4, ISSN: 2250-3153.
- Shubhangi Jadhav & Revati Shriram, “Preprocessing, segmentation and matching of dental radiographs used in dental biometrics”, International Journal of Science and Applied Information Technology, 2012, Vol-1, Issue-2, ISSN: 2278-3083.

No. of Books Published with details: Following are the details of the Book Chapters Published in various series.

- Jinu James, Neenu George, Shreenidhi Kulkarni, Sneha Pasewar & Revati Shriram, “Detection of Parkinson’s Disease through Speech Signatures”, Springer Book Chapter in AISC Series, ISBN No: yet to be allotted.
- Vaidehi Deoskar, Pooja Kulkarni, Tewaswini Dhengade & Revati Shriram, “Workload Assessment based on Physiological Parameters”, Springer Book Chapter in AISC Series, ISBN No: yet to be allotted.
- Nivedita Daimiwal, V Vijay Baskar, Betty Martin, M. Sundhararajan & Revati Shriram, “Welch Power Spectral Density of Cranial PPG Signal using AVR ATMEGA8535 Microcontroller”, Springer Book Chapter in SIST Series, ISBN No: 978-981-13-1920-4.
- Revati Shriram, V Vijay Baskar, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, “Energy Distribution and Coherence based Changes in Normal and Epileptic Electroencephalogram”, Springer Book Chapter in SIST Series, ISBN No: 978-981-13-1920-4.
- Apurwa Jagtap & Revati Shriram, “Performance Parameter Based Comparison of Slantlet Transform and Discrete Cosine Transform for Steganography in Biomedical Signals”, Springer Book Chapter in LNNS Series, ISBN No: 978-981-10-8203-0.
- Revati Shriram, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, “Statistical Analysis of Derivatives of Cranial Photoplethysmogram in Young Adults”, Springer Book Chapter in AISC Series, ISBN No: 978-981-10-8228-3.
- Nivedita Daimiwal, Betty Martin, M. Sundhararajan & Revati Shriram, “Robust Estimation of Brain Functional Connectivity from functional Magnetic Resonance Imaging using Power, Cross-Correlation and Cross-Coherence”, Springer Book Chapter in AISC Series, ISBN No: 978-981-10-8228-3.
- Samrudhhi Deshpande & Revati Shriram, “Assistive Text on Hand Held Objects for Blind People”, Springer Book Chapter in AISC Series, ISBN No: 978-981-10-4740-4.

Name: Dr. Nivedita Daimiwal
Date of Birth: 27th July 1974
Unique ID: 1-435916181

Education Qualification:

- **Ph.D awarded certified by Sathyabama Institute of Science and Technology, Chennai ,India in July 2018**
  Title: Design and Implementation of PPG sensor for Brain mapping using fMRI as GOLD standard.
- **M.E (Biomedical Instrumentation**), COEP Pune, India in 2004
- Thesis Title: 24 hours recording of ECG signal on A4 size paper
- **B.E (Instrumentation and Control),** Cummins College of Engineering for Women, India in1995
- Thesis Title: Spectrum Analyzer

Teaching Experience: 23 years

- Technical Assistant : 1997-2005
- Lecturer: 2005-2007
- Assistant Professor in Cummins college of Engineering For women since 2007 till date.

Industry Experience: 2 years

- Industrial Experience: 1year 6 months experience in Yenkay and Dikibi system in 1995-1997.
- Consultancy for 6 months Vitak, 6229 EV Maastricht, Netherlands in APG project February 2018- July 2018.

Area of Specialization: Sensor design, Biomedical Signal and image Processing, Brain Mapping (fMRI:Time series) with 45 number of publications.

Courses Taught Under Graduate Level

- Computer Fundamentals
- Linear Techniques
- Network Theory
- Material Processing for Sensors
- Biomedical Instrumentation
- Advanced biomedical Instrumentation
- Digital Image Processing

Courses Taught Under Graduate Level

- Engineering in Medicine
- Advanced biomedical instrumentation

Research Guidance :

- Masters: 9 students

Projects Carried Out:

- **UG:** 32
- **PG:** 04

Research Publications:

- **International Journal:20**
- **International Conference:53**
- **National Conference:3**

Patent: 1 patent filed

Books Published: Brain Mapping using CPPG, LAP LAMBERT Academic Publishing , ISBN 978-613-9-94979-3.

Developed PC based CPPG system for noninvasive physiological parameters measurement and for brain mappings.

Publication List

International Journal: 20

- Applied Engineering Research , (IJAER)ISSN 0973-4562 Volume 10, Number 7 (2015) pp. 17347-17356 ,© Research India Publications ,http://www.ripublication. Nivedita Daimiwal, S. Poornapushpakala, Betty Martin, M.Sundhararajan, Revati Shriram, " Design of Optical System for measurement of SpO2 Using Systolic Amplitude Based Photoplethysmography Signal ", Biomedicine Journal, (ISSN:09702067) Scopus indexed Journal. Paper is accepted
- "Design and implementation of cranial PPG sensor for brain mapping using fMRI as gold standard", Nivedita Daimiwal ,Dr. Betty Martin, Dr.M.Sundhararajan , Revati Shriram, International Journal on Intelligent Electronics Systems, Vol. 11 No.1 January 2017.
- "Analysis of radio frequency reflectance type PPG sensor based on systolic amplitude and source wavelength " , Nivedita Daimiwal, Dr. Betty Martin, Dr. M. Sundararajan, Revati Shriram Biomedical Research 2016; Special Issue:S371-S375,(ISSN:0970-938X)(Impact Factor:0.226)(SNIP:0.225, SJR: 0.162,IPP: 0.315).
- "NIRS Based PPG Sensor For Detection of Oxy –Hb and Deoxy-Hb Change During Activity", Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram International Journal of Applied Engineering Research, Research India Publications, pp. 17347-17356, Volume 10, Number 7 (2015).(ISSN 0973-4562)(SNIP:0.260, SJR: 0.130,IPP: 0.105).
- "Design of Cranial PPG sensor for DC and PWM Excitation in Near Infrared Spectroscopy", Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram IJCTA,

,International Sciences Press,pp.971-975,volume8,ISSUE (3),2015,(ISSN:0974-5572) (SNIP:1.466, SJR: 0.526,IPP: 11.171).

- "Non Invasive FNIR and FMRI system for Brain Mapping", Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram ,IJSRP (International Journal of Scientific and Research Publications),volume 3 ,issue2 ,February 2013,(ISSN: 2250-3153),(Impact Factor: 1.22).pp.1-4.
- "Non Invasive Measurement and Analysis of Cardiac Output for Different Age Group Using PPG Sensor ", Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram, International Journal of Compute applications, 2016, (ISSN: 0975-8887),(ISBN:973-93-80892-27-1).pp.25-28
- "Applications of fMRI for Brain Mapping", Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram, *(IJCSIS) International Journal of Computer Science and Information Security, Vol. 10, No. 11*, November 2012, (ISSN: 19475500),),(Impact Factor: 0.423) (Journal is indexed in Emerging Web of Science).pp.23-27.
- "Functional MRI Study for Eye Blinking and Finger Tapping", Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram, IOSR Journal of Electronics and Communication Engineering (IOSR-JECE), PP: 22-26,(ISSN : 2278-2834, ISBN: 2278-8735).
- "Brain Connectivity Analysis Methods for Better Understanding of Coupling", Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram International Journal of Computer Science and Information Security (IJCSIS), pp: 16-22, Vol 10–No. 11, Nov 2012, ISSN:1947-5500. (IF:0.432) (Indexed: Emerging SCI - WEB OF SCIENCE, EBSCO)
- "Human Brain Mapping based on COLD Signal Hemodynamic Response and Electrical Neuroimaging", Revati Shriram, M. Sundhararajan & Nivedita Daimiwal International Journal of Computer Applications (IJCA), pp: 27-31, Vol 63–No. 5, Feb 2013, ISSN:0975-8887. (IF:0.791) (Indexed: EBSCO)
- "Statistical Analysis of Pulse Acquired from various Body sites using Piezoelectric and Optical Transducer", Revati Shriram, M. Sundhararajan & Nivedita Daimiwal ,International Journal of Control Theory and Applications (IJCTA), Serial Publications, pp. 831-838, Vol 8, No. 3, 2015, ISSN: 0974-5572. (SNIP:1.466, SJR:0.526 IPP:11.171) (Indexed: SCOPUS and EBSCO)
- "Cranial PPG Brain Signal based Cardiovascular Parameter Estimation", Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, International Journal of Control Theory and Applications (IJCTA), Serial Publications, pp. 839-845, Vol 8, No. 3, 2015, ISSN: 0974-5572. (SNIP:1.466, SJR:0.526 IPP:11.171) (Indexed: SCOPUS and EBSCO)
- "Statistical Features based comparison of Analysis and Synthesis of Normal and Epileptic Electroencephalogram for various Wavelets", Revati Shriram, M. Sundhararajan, Supriya Shete & Nivedita Daimiwal, Turkish Journal of Electrical Engineering and Computer Sciences, Scientific and Technological Research Council of Turkey, pp: 1795-1806, Vol: 25, No:3, 2017, ISSN: 13000632. (SNIP:0.621, SJR:0.311, IF:0.583) (Indexed: SCI - WEB OF SCIENCE, SCOPUS and EBSCO)

- "Effect of Source Wavelength on Second Derivative of Finger Photoplethysmogram in Healthy Young Female Volunteers", Revati Shriram, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, Biomedical Research-India, Allied Academics, Special Issue: Health Science and Bio Convergence Technology: Edition-I, pp. S454-S459, No.25, Dec 2016, ISSN: 0970-938X. (SNIP:0.215, SJP:0.162, IPP:0.315, IF:0.226) (Indexed: SCI - WEB OF SCIENCE, SCOPUS and EBSCO)
- "Comparison of Acceleration Plethysmogram Acquired using Optical Signal and Pressure Signal", Revati Shriram, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, International Journal of Signal Processing, Image Processing and Pattern Recognition, Science and Engineering Research Support Society (SERSC), pp 57-68, Vol. 10, No. 9, Sep 2017, ISSN: 20054254 (SJR: 0.112) (Indexed: SCOPUS and EBSCO)
- "Future of CPPG – EEG Concurrent Modality", Revati Shriram, Betty Martin, M. Sundhararajan & Nivedita Daimiwal, International Journal on Intelligent Electronic Systems, pp: 19-26, Vol: 11, Issue: 1, January 2017, Volume 7, No. 1, ISSN: Sathyabama University. (Indexed: EBSCO).
- "Microcontroller based ECG and Blood Pressure Simulator". NSI-31 Gwalior. Volume 37on 15th December 2007. ISOI JOURNAL
- "Real time ECG acquisition and FFT analysis by using Lab View". NSI 31 Gwalior., September 2009. ISOI JOURNAL
- International Journal of com ,"NIRS Based PPG Sensor For Detection of Oxy –Hb and Deoxy-Hb Change During Activity". April 2015.

International Conferences: 53

- Nivedita Daimiwal, S. Poornapushpakala, Betty Martin, M.Sundhararajan, Revati Shriram, " Welch's Power Spectral Density of Cranial PPG Signal using AVR ATmega 8535 Microcontroller", 2nd International Conference on Smart Computing & Informatics, SCI 2018, 27th -28th January 2018, PVPSIT Vijayawada, India (Indexed Scopus and will appear in Springer SIST Book series).
- "Robust Estimation of Brain Functional Connectivity from Functional Magnetic Resonance Imaging using Power, Cross Correlation and Cross Coherence ", Nivedita Daimiwal ,Dr. Betty Martin, Dr.M.Sundhararajan , Revati Shriram , ICCII 2017, Paper will be Published in AISC series of Springer. (Listed in the UGC Approved Journal List at Index No. 1375).
- "Statistical Analysis of Derivatives of Cranial Photoplethysmogram in Young Adults", Revati Shriram, Betty Martin, M. Sundhararajan & Nivedita Daimiwal ,Second International Conference on Computational Intelligence and Informatics (ICCII 2017), 26th -27th September 2017, JNTUH, Hyderabad, India.) (Indexed: SCOPUS & will be available as a chapter in Springer ASIC Book Series)
- "Analysis of features for myocardial infraction and healthy paptients based wavelet",Pereira.H, Nivedita Daimiwal, Conference on Advances in Signal Processing,CASP 2016.

- “Multimodal medical image fusion under nonsubsampled contourlet transform domain”, Mankar.R, Nivedita daimiwal, 2015 International conference on communication and signal Processing, ICCSP 2015.
- “Application of photoplethysmography in blood flow measurement”, Sangurmath.S, Nivedita Daimiwal, 2015 international Conference on Industrial Instrumentation and control, ICIC2015.
- Paper entitled “ Non- Invasive Blood Flow Measurement Using Optical Sensor” has been accepted at the national conference on Trends in Signal Processing and Computing (TSPC- 2015) which is to be held on September 18th and 19th in Rama University, kanpur
- “Wavelet Approach For Detection of Functional Brain Activity In Prefrontal Lobe Using Cranial PPG Signal ” , Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram ENVISTA 2015, Sathyabama University ,Chennai. pp.77.
- “Statistical Analysis of Connectivity Measures of Electroencephalogram during Colour Word Reading Interference”, Revati Shriram, M. Sundhararajan, Sukhada Unde & Nivedita Daimiwal ,ENVISTA 2015, International Conference on Emerging Novelties and Vistas in Space Technologies and Applications, 25th – 27th February 2016, pp: 76, Sathyabama University, Chennai, Tamil Nadu, India.
- “Effect of Change in Intensity of Infrared LED on Photoplethysmogram”, Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, IEEE International Conference on Communications & Signal Processing (ICCSP), Mellamavathur, 3rd–4th April 2014, pp: 5911-594.” (SNIP:0.306, SJR:0.114, IPP:0.125) (Indexed: SCOPUS & available on IEEE Xplore)
- “Respiratory Rate, Heart Rate and Continuous Measurement of BP Using PPG ”, Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram ICCSP 2014, Adhiparasakthi Engineering College,(SNIP:0.306, SJR:0.114 ,IPP:0.125) .(IEEE scopus indexed Conference).pp.1149-1152.
- “Application of High & Low Brightness LED to Human Tissue to Capture Photoplethysmogram at Finger Tip”, Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, IEEE International Conference on Convergence of Technology (I2CT), Pune, 6th–8th April 2014. (SNIP:0.076, SJR:0.100, IPP:0.022) (Indexed: SCOPUS & available on IEEE Xplore)
- “Comparative Analysis of LDR and OPT 101 Detectors in Reflectance Type PPG sensor”, Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram ,ICCSP 2014, Adhiparasakthi Engineering College,(SNIP:0.306, SJR:0.114 ,IPP:0.125) .(IEEE scopus indexed Conference).pp.1198-1201.
- “EEG Based Cognitive Workload Assessment for Maximum Efficiency”, Revati Shriram, M. Sundhararajan & Nivedita Daimiwal, Second International Conference on Emerging Trends in Engineering (SICETE), Jaysingpur. (Conference Proceeding is published as a IOSR Journal of Electronics & Communication Engineering (IOSR-JECE), February 2013, pp: 34-38, ISSN:2278-2834.)
- “Wave Transit Time based Cuffless Continuous Blood Pressure Measurement”, Revati Shriram, M. Sundhararajan & Nivedita Daimiwal ,Elsevier International Conference on Resent Trends in Engineering Sciences (ICRTES), Nasik, 23rd–24th November 2013, pp: 170-174.

- Activity based brain lobe identification", Desai.D, Daimiwal.N, ICSP Nanded, 3rd and 4th July 2013.
- "Patient fall detection using wireless technique for elder people ", Patil .Vinita, Daimiwal.N, ICMIE2013 at Pune, 20th Jan 2013
- "Acquistion of PPG signal for diagnosis of parameters related to heart" ,Laulkar. R, Nivedita Daimiwal Proceedings –ISPTS-1,st International Symposium on Physics and Technology of sensors,2012.
- "Heart Diagnosis using Photoplethysmography" in National level conference on "Nanotechnology and its Applications in Electronics Engineering" (NCNAEE-11) from 15th December to 16th December 2011, sponsored by Council for Scientific and Industrial Research (CSIR), New Delhi and supported by Institute of Electronics and Telecommunications Engineers (IETE), Pune.
- "Wireless Transfusion supersision and nalysis using embedded system",Daimiwal N, Ramdasi.D, Shriram. R, Wankankar.A. ICBBT2010,China, 2010 International Conference on Bioinformatics and Biomedical Technology.
- "Continuous cuffless blood pressure monitoring based on PTT", Shriram. R, Daimiwal N, Ramdasi.D, Wankankar.A. ICBBT2010, China, 2010 International Conference on Bioinformatics and Biomedical Technology.
- "Level measurement using capacitive sensor and detector as Maxwell's bridge",Nivedita daimiwal, SSPCCIN .VIT Pune, January 2008.
- "Continuous ECG Recorder", Nivedita Daimiwal, International Conference on Instrumentation INCON-2004 at Pune during 19th to 21st December 2004.
- "Application of Light Emitting Diode as Detector", Nivedita Daimiwal, Pratima Kulkarni, Rajashree Padalkar, International Conference on Instrumentation INCON-2004 at Pune during 19th to 21st December 2004.
- "LED as Photovoltaic cell and LDR" ,Nivedita Daimiwal, ACI-2005 at Chennai.
- Presented a paper on "Continuous ECG Recorder" at International Conference on Instrumentation INCON-2004 at Pune during 19th to 21st December 2004.
- Presented a paper on "Application of Light Emitting Diode as Detector" at International Conference on Instrumentation INCON-2004 at Pune during 19th to 21st December 2004.
- Presented a paper on "LED as Photovoltaic cell and LDR" at ACI-2005 at Chennai.
- Level measurement using capacitive sensor and detector as Maxwell's bridge, SSPCCIN .VIT Pune, January 2008
- 'Continuous Cuffless blood Pressure Monitoring based on PTT', ICBBT 2010,China.
- 'Wireless Transfusion Supervision and Analysis Using Embedded System 'ICBBT 2010, China.
- Wireless fall detection for elderly using embedded system. GCSE 2011:28-30 December 2011,Dubai, UAE.
- Non invasive B.P meter system for long term continuous cuffless measurement. ICDC 2011,CHENNAI, GCSE 2011: 28-30 December 2011, Dubai, UAE
- Neonatal total parental nutrition control using zigbee protocol. ICDC 2011,CHENNAI, GCSE 2011: 28-30 December 2011, Dubai, UAE

- Non invasive continuous Measurement of BP based on Peak detection and decomposition of Study of Heart motion using tagged MR images. ICDC 2011,CHENNAI, GCSE 2011: 28-30 December 2011, Dubai, UAE
- Transmissions of multiple physiological parameters using zigbee. ICDC 2011,CHENNAI. GCSE 2011: 28-30 December 2011, Dubai, UAE
- "Brain lobe identification based on analysis of fMRI images analysis".National conference on emerging trends in engineering and technology.18th and 19th Feb 2013
- "Activity based brain lobe identification" (using fmri images analysis) Conference, ICSP Nanded, 3rd and 4th July 2013.
- "Patient fall detection using wireless technique for elder people ",ICMIE2013 at Pune, 20th Jan 2013
- ISSN 2250-3153 ,IJSRP (International Journal of Scientific and Research Publications). FEBRUARY 2013 Edition "Non Invasive FNIR and FMRI system for Brain Mapping".
- (IJCSIS) International Journal of Computer Science and Information Security, Vol. 10, No. 11, November 2012 for the paper title "Applications of fMRI for Brain Mapping "
- IOSR Journal of Electronics and Communication Engineering (IOSR-JECE),ISSN: 22782834, ISBN: 2278-8735, PP: 22-26. Second International Conference on Emerging Trends in Engineering (SICETE), Dr.J.J.Magdum College of Engineering, Jaysingpur "Functional MRI Study for Eye Blinking and Finger Tapping" 22-23 February 2013.
- ICCSP 2014, IEEE conference " Respiratory Rate, Heart Rate and Continuous Measurement of BEEE conference P Using PPG". **3 to 5th April 2014**
- ICCSP 2014, IEEE conference " Comparative Analysis of LDR and OPT 101 Detectors in Reflectance Type PPG sensor" . **3 to 5th April 2014**
- *National Conference*:NCAMA 2014 ",Acquisition of PPG signal using OPT101 as Detector In visible to infrared range
- "Biomedical Image Fusion based on Discrete Nonsubsampled Contourlet Transform"NCMOC-2015,VIT. **(March 4-6 ,2015)**
- "Multimodal Medical Image Fusion Under Nonsubsampled Contourlet Transform Domain",ICCSP-2015 held at Chennai. 4-5 April 2015.
- "Application Of Photoplethysmography in Blood Flow Measurement",ICIC 2015, 28th to 30th May, 2015
- "Design of Cranial PPG sensor for DC and PWM Excitation in Near Infrared Spectroscopy", XII Control Instrumentation System Conference (CISCON-2015) from 2nd to 4thNovember 2015 at MIT, Manipal. Paper published in ANNEXURE II: IJCTA ,International Sciences Press, India
- "Wavelet Approach For Detection of Functional Brain Activity In Prefrontal Lobe Using Cranial PPG Signal ", The International conference on EMERGING NOVELTIES AND VISTAS IN SPACE TECHNOLOGIES AND APPLICATIONS (ENVISTA 2015), 25th to 27th Jan 2016 at Sathyabama University , chennai.

- ISSN 2250-3153 ,IJSRP (International Journal of Scientific and Research Publications). FEBRUARY 2013 Edition, “Non Invasive FNIR and FMRI system for Brain Mapping”
- (IJCSIS) International Journal of Computer Science and Information Security, Vol. 10, No. 11, November 2012 for the paper title, “Applications of fMRI for Brain Mapping”
- CONFERENCE ON ADVANCES IN SIGNAL PROCESSING (CASP-2016) Schedule on 9th , 10th and 11th June 2016CASP 2016, “Analysis of Features for Myocardial Infarction and Healthy Patients Based on Wavelets”

National publications:3

- “Analysis of PPG signal by Mean Square Spectrum for different wavelength”, Nivedita Daimiwal , Dr.M.Sundhararajan , Revati Shriram NCECE 2016, National Conference in DIAT Pune, 21st -22nd January 2016.pp.25.
- “Acquisition of PPG signal using OPT101 as Detector In visible to infrared range”, Daimiwal.N, M.Sundararajan, Revati Shriram, NCAMA 2014.
- "Biomedical Image Fusion based on Discrete Nonsubsampled Contourlet Transform", Mankar.R, Nivedita Daimiwal,NCMOC-2015,VIT

Name: Yashwant Gulab Adhav

Date of Birth: 15/12/1973

Unique ID: 1-436315621

Education Qualifications:
Ph.D. (Pursuing) SPPU (COEP)
M. Tech. in Instrumentation (2008),University of Pune, India, Class: **Distinction (7.8)**

B.E. in Instrumentation (2000) Shivaji University Kolhapur, India, Class: **First Class**

Work Experience:
Industry: 3 months **Teaching:** 19 yrs. **Research:** NIL **Others:** NIL
Industrial Experience: 1. Malegaon Sugar Industry

2. Dairy Dynamic Industry. (Britannia)

Area of Specialization:
- MEMS
- Sensors and Transducers

Courses taught:
Undergraduate Level:
1. Sensors and Transducers I
2. Sensors and Transducers II
3. Unit Operation and Power Plant
4. Building Automation
5. Micro Electro Mechanical System
6. Smart Material and Systems

Research Guidance:

No. of papers published in

- **International Journals: 1**
- **Conferences: 4**

Masters: 3 students

Projects carried out: 15

Patents: 2

- **Patent Published- 02**

1. Title of invention-system and method for hardness detection of water.

Name of Inventors-
1.Prof.Yashwant Adhav
2.Uttunga Shinde
3.Swapnali Satpute
4.Krutika Punekar.

2. Title -A LEAD ACID BATTERY CHARGE MONITORING SYSTEM

Name of Inventors-
1. Dr. C.Y.Patil
2. Yashwant Adhav

Paper Published -05

1. "Design of Micro- Ice Detection Sensor for Aerospace Application" in International level conference 'ICMMME2013' (International Conference on Material, Metallurgy and Manufacturing Engineering) by Institute for Research and Development, India (IRD) held at Nagpur dated February 17, 2013.TARME ISSNI: 2319-3182].

2. "Design and simulation of blocked blood vessel for early detection of Hart diseases". IEEE Conference Physics and Technology of Sensors (ISPTS), 2015 2nd International Symposium on Year: 2015 Pages: 204 - 208, DOI: 10.1109/ISPTS.2015.7220113

3. "Design and Simulation of Micro-Pump Based On Magnetic Actuation". **IIJR2016012.**International interdisciplinary Journal of Research On Administration or Business, Competencies and development

4. "Wireless Robotic Hand for remote Operation using flex Sensor". ICACDOT-2016.International Conference on automatic control Dynamic Optimization Hinjawadi Pune. **ISBN No-** 978-1-5090-2080-5, **September 9-10, 2016.**

5. AUTOMATIC PIPE CUTTING MACHINE Volume 8, Issue 6, JUNE 2019. IJSRR - UGC APPROVED JOURNAL

Workshop /courses: 30
(IIT courses and GENTRIZ diploma, Product development, Patent drafting etc.)
Cummins MEMS R&D center: 10 MEMS Projects guided at UG and PG level.

Presented all work at IISC Bangalore for 3Years since 2012.

Membership of Scientific and Professional Society.

1. Lifetime member of Instrumentation Society of India. No- 1512

2. Lifetime member of Indian Society for Technical Education M. No: LM 67497

3. Life member of ISSS (Indian Institute of Smart material structures and systems LF-371

4. IEEE Instrumentation and Measurement Society- 93754256.

Award – 1 Forbes Marshall (Outstanding MEMS Project)

Social work: Dept. co –coordinator of Bhaubeej Nidhi.

Name: Dr. Mrs. Swati Prashant Madhe.
Date of Birth: 03/06/1980
Unique Id: 1-436315625
Education Qualifications:

- **Ph.D.** completed in Instrumentation Engineering, from SGGS Institute of Engineering & Technology, Swami Ramanand Teerth University, Nanded under the supervision of Dr. R.S. Holambe in June 2018.
- **M.E.** in Instrumentation and control engineering with specialization in Process Instrumentation Govt. College of Engineering Pune, University of Pune in 2006 with first class
- **B.E.** in Instrumentation form Cummins College of Engineering for Women, University of Pune, in 2001 with Distinction. **(University Rank Holder)**

Work Experience:

17 years of teaching experience

January 2010 to till date : Cummins College of Engineering for Women, Pune-411052

Designation : Assistant Professor in Instrumentation & Control Department

January 2003 to January 2010: AISSMS's IOIT, Pune-411001

Designation : Lecturer in Instrumentation & Control Department

Achievement:

- Received 'Best Teacher Award' for the year 2018-19 from Savitribai Phule Pune University.
- Received certificate from Forbes Marshall for successfully guiding project which had been adjudged the most outstanding project in Instrumentation during 2015-16.
- Received 'Best Paper' award for paper titled 'Modelling and Optimization of Steam Generating Equipment' in the National Conference on Emerging Trends in Electronics and Telecommunication, organized by JSPM's Rajashree Shahu College of Engineering, Pune, in April 2007.
- Qualified GATE-2002 with 91.54 percentile.
- Stood Fourth in the B. E. (Instrumentation & Control) examination of Pune University held in May 2001.

Area of Specialization: Digital Signal Processing, Wavelets and Filter Bank Design,

Biometrics, Biomedical Signal Processing Applications

Courses taught at Under Graduate/ Post Graduate Level:

- Materials & Processes for Sensors (SE)
- Basic Instrumentation (SE)
- Digital Techniques (SE)
- Network Theory (SE)
- Microcontroller Techniques (TE)
- Mechanical Processes & Systems (SE Elex)
- Process Loop Components (TE)
- Digital Signal Processing (TE)
- Process Instrumentation (BE)
- Computer Techniques & Applications (BE)
- Fundamentals of Instrumentation (SE)
- Bio-Imaging Modality (ME)
- Wavelets Based Biosignal Processing(ME)

Research Guidance

- No. of papers published in National/ International Journals/ Conferences: 33

-Master : 09

Research Publications: 33

Projects Carried Out:

- **PG:** 8
- **UG:** 25

PUBLICATIONS:

INTERNATIONAL CONFERENCE:

- Presented paper titled, "Design of Time-Frequency Localized Filter Bank Using Modified Particle Swarm Optimization" at 18th International Conference on Intelligent Systems Design and Applications (ISDA 2018) organised by Vellore Institute of Technology on 6th -7th December 2018.
- Presented paper titled, "Convex Optimization based Filter Bank Design for Contact Kens Detection" at 3rd International Conference on Computing, Communication and Signal Processing (ICCASP-2018) TEQIP-III organised by Dr. Babasaheb Ambedkar Technological University on 26th -27th Jan 2018.
- Published a paper, 'In-sole shoe foot pressure monitoring for gait analysis', 3rd International conference on Computing, Communication, Control and Automation, August 2017.
- Published a paper on 'Automatic Bed position Control Based on hand Gesture Recognition for Disabled patients' in the proceedings of International Conference on 'Automation Control and Dynamic Optimization Techniques (ICACDOT

2016)' organized by International Institute of Information Technology, Pune, held on 9th and 10th September 2016.

- Published paper on, 'IoT Based Monitoring of Foot Pressure Using FSR Sensor', in 6th IEEE International Conference on 'Communication and Signal Processing', organized by Adhiparasakthi Engineering College Chennai, during 6th – 8th April, 2017.
- Presented a poster on 'Hand Gesture Recognition Based Bed Position Control for Disabled Patients' in the IEEE International Conference on 'Advance in Signal Processing (CASP'2016) held at Cummins College of Engineering, Pune , 9-11 June, 2016.
- Published a paper on 'Vessel Detection and Noise Suppression Methods of Optical Coherence Tomography (OCT) images' in the proceedings of International Conference on 'Recent Trends in Engineering and Technology (ICRTET'2015)' held at Nashik from 2nd to 4th July, 2015.
- Published paper on "Evaluation of Wavelet Based ECG Steganogrphy System Using Percentage Residual Difference (PRD) Measurements" in IEEE International conference on Communication and Signal Processing , held on April 2-,4 2015 at Adhiparasakthi Engineering College Melmaruvathur.
- Published paper on "Analysis of Encrypted ECG Signal in Steganogrphy using Wavelet Transform" in IEEE International conference on Electronics and Communication Systems(ICECS 2015), held on February 26, 27- 2015 at Karpagam COE, Coimbtore.
- Published paper on "RNFL thickness measurement of OCT images for glaucoma detection" in IEEE International conference on knowledge Collaboration in Engineering (ICKCE 2015), held on March 27th and 28th, 2015 at Kathir College of Engineering, Coimbature.
- Published a paper in International Conference on Advances in Communication and Computing Technologies 2014 on "Hypo and Hyperthyroid disorder detection from thermal images using Bayesian Classifier" organized by PVP PCOE, Mumbai on 11th August.
- Published a paper on 'Morphological Feature Extraction of Thermal Images for Thyroid Detection' in the booklet of International Conference on 'Electronics and Telecommunication, Electrical and Computer Engineering' held at Sinhagad Institute of Technology and Science, Narhe, during April 5-6, 2014.
- Published a paper on 'Fetal ECG Extraction and R-peak Detection for Fetal Heart Rate Monitoring using Independent Component Analysis' in the proceedings of International Conference on 'Recent Trends in Engineering and Technology' held at Nashik during 28th to 30th March, 2014.
- Published a paper on 'Fetal Electrocardiogram Extraction and R-Peak Detection using Independent Component Analysis ' in the Souvenir of International Conference on 'Science and Technology 2K14' held at Indapur during 21-22 February, 2014.
- Published a paper on 'Blood vessel segmentation & classification of retinal images for detection of proliferative diabetic' in IEEE International Conference on 'Signal Processing' during April 3-5, 2013.
- Published a paper on 'Morphological Feature Extraction for Diabetic Retinal

Analysis' in the booklet of International Conference on 'Recent Trends in Engineering and Technology' held at Nashik during 22nd to 24th February, 2013.

- Published a paper on 'Enhancement of X-ray Images using Seed Based Region Growing Technique' in the booklet of International Conference on Electrical Engineering & Computer Science (ICSEES) held at Goa 5-6 May 2012.
- Published a paper on 'Performance Evaluation of Spatial Techniques for Enhancement of X-ray Images' in the booklet of International Conference on Current trends and Challenges in Engineering, Computer Application and Technology held at Deogiri College, Aurangabad 23-25 March 12.
- Presented a poster titled 'Integration of Process using OPC' at International Conference on Instrumentation, organized by Pravara Rural Engineering College, in December 2008.

NATIONAL CONFERENCE:

- Presented a paper on 'Novel Technique of Thyroid Disorder Detection using Thermal Imaging' in National research Conference Exploria-2014 organized by MIT, Pune, on 30th January 2014.
- Published a paper on 'PDR localization in Retinal Image Using Gabor Wavelet and Bayesian Classifier' in the National Conference on Instrumentation, Control and Signal Processing-ICSP-2013.
- Presented a paper titled 'Linear and Non-linear Techniques for X-ray Image Enhancement' in Futurizm-12 organized by P. D. E. A COE Manjari, on 10th -11th February 2012.
- Presented a paper titled 'Integration of Process using OPC' in National Symposium on Instrumentation - 33, organized by Anna University, Vishakhapattam, in November 2008.
- Presented a paper titled 'Modelling and Optimization of Steam Generating Equipment' in the National Conference on Emerging Trends in Electronics and Telecommunication, organized by JSPM's Rajashree Shahu College of Engineering, Pune, in April 2007.
- Presented a paper titled 'Process Automation Integration using OPC' in National Conference on Signal Processing and Automation, organized by D.Y.Patil Institute of Engineering and Technology, Pune, in September 2007.
- Attended International Conference on Instrumentation organized by Govt. College of Engineering, Pune, in December 2004.

JOURNALS:

- Madhe S., Holambe R. (2019) Convex Optimization-Based Filter Bank Design for Contact Lens Detection. In: Iyer B., Nalbalwar S., Pathak N. (eds) Computing, Communication and Signal Processing. Advances in Intelligent Systems and Computing, vol 810. Springer, Singapore
- Madhe, S.P., Patil, B.D. & Holambe, R.S., "Design of a frequency spectrum-based versatile two-dimensional arbitrary shape filter bank: application to contact lens detection ", Pattern Analysis and Application (2018). https://doi.org/10.1007/s10044-018-0764-6

- Published paper titled ‘On the Design of arbitrary Shape Two-Channel Filter Bank using Eigenfilter Approach’, Circuits, Systems, and Signal Processing (Springer), pp. 1-12, Published Online: 23 February 2017
- Vaishali Kakade, Swati Madhe, 'Vessel Detection and Noise Suppression Methods of Optical Coherence Tomography (OCT) images', *International Journal of Modern Trends in Engineering and Research*, Volume 2, Issue 7, [July-2015], Special Issue of ICRTET’2015, PP 1171-1176
- Pallavi Mahajan, Swati Madhe, ‘A Novel Technique of Thyroid Disorder Detection using Thermal Imaging’, *International Journal of Multidisciplinary Educational Research (IJMER),* Vol.-3, Issue-3(12), pp 77-82, March 2013.
- Arti Yeolkar, Swati Madhe, ‘Detection of Diabetic Retinopathy from Fundus Images using Digital Image Processing’, *ISOI Journal,* Vol.42, No. 4 December 2012, pp 241-244.
- Swati Madhe, Mohini Kirane, 'Customized Scada using OPC', *ISOI Journal*, Vol 39, No. 3, September 2009, pp 199

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- Process Instrumentation I
- Process Instrumentation II
- Process Loop Components
- Unit Operation and Power plant Instrumentation
- Building Automation
- Project Engineering and Management
- Instrumentation for Chemical Analysis
- Process Dynamics and Control

Projects carried out:

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- Project Engineering and Management
- Digital Signal Processing
- Industrial Automation
- Instrumentation in Agriculture and Food Industry

No. of Papers published: 2
Projects carried out: 3

Paper Published:

- Manisha Narwane, Atul Joshi, "Characterization of developed strain gauge type sensor for spirometer", International journal of multidisciplinary education research, V.5.16, Vol-3,ISSUE 3(6), Mer.2014
- Manisha Narwane, Atul Joshi, " Design And Development Of Strain Gauge Type Hand-Held Spirometer", MITSOM PGRC KHOJ-Management-Journal ISSN-0976-8262,CAL ENGINEERING, Vol.59, No.11,Nov.2012