

Dr. Bharkatkumar Shamrao Patil

Designation: Head of Department (HOD)

Institution: A.I.S.S.M.S Polytechnic, Pune

Date of Birth: 30th May 1972

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Professional Profile

Experienced academic professional with extensive experience in teaching, academic administration and departmental leadership. Experience as Principal for 10 years, HOD experience as 18 years, and total teaching experience of 28 years. Areas of involvement include development of Electronics/Instrumentation and Artificial Intelligence laboratories, workshops, seminars, industrial visits, institution building, staff development, entrepreneurship development, and MSBTE-sponsored academic activities.

Educational Qualifications

- Ph.D. (Instrumentation Engineering) thesis title “DESIGN OF CONTROLLER FOR INTEGRAL PROCESSES” from Shivaji University, Kolhapur.
- M.E. Instrumentation (Biomedical) from Savitribai Phule Pune University.
- B.E. Instrumentation from Shivaji University, Kolhapur.

Experience

Sr. No.	Position held	Name of the College / Institution	Period	Nature of appointment
1	HOD	AISSMS Polytechnic, Pune	18/05/2018 to till now	Permanent
2	Principal	AISSMS Polytechnic, Pune	01/09/2008 to 17/05/2018	Permanent
3	HOD	AISSMS Polytechnic, Pune	01/10/2005 to 31/08/2008	Permanent
4	Incharge HOD	AISSMS Polytechnic, Pune	16/10/1998 to 30/09/2005	Permanent

Sr. No.	Position held	Name of the College / Institution	Period	Nature of appointment
5	Lecturer	AISSMS Polytechnic, Pune	10/08/1998 to 05/10/1998	Permanent

Principal Experience: 10 years

HOD Experience : 18 years

Total Teaching Experience: 28Years

Pioneered Activities

- Established and ran Yashwantrao Chavan Maharashtra Open University study center at A.I.S.S.M.S. from June 2006 – May 2014 for B.Tech Electronics and diploma/degree courses in computer technology, Electronics & Communication Engineering, Instrumentation Engineering, Industrial Electronics, Mechanical Engineering, Production Technology and Automobile Engineering.
- Established Alumni Association in A.I.S.S.M.S Polytechnic, facilitating activities that benefit current students.
- Conducted training courses on PLC and automation.
- Started celebration of Shiv Jayanti in A.I.S.S.M.S R.T.O. office campus and grand Shiv Jayanti procession.
- Hosted the first-ever State-level project competition for diploma final-year students sponsored by MSBTE.
- Started State-level paper presentation activity in A.I.S.S.M.S Polytechnic.

Workshops / Conferences / Training

- Institution building and staff development
- Development of generic skills
- International conference on instrumentation INCON - 2004
- Entrepreneurship development
- Fruits and vegetable preservation training
- Conference on Designing destiny - Rediscovering our purpose
- Operation and maintenance of imaging systems used in clinical applications
- Effective teaching skills
- Small industry development program
- International conference on emerging trends in engineering - ICTE 2010
- Industrial training at Reliance infrastructure limited (DTPS)
- Online course on energy management and climate action
- Online course on biocultural diversity conservation and climate action
- Online course on living with climate change and water management
- Online course on waste management and climate action

- Workshop on instrumentation and control
- Workshop on institution building and staff development
- Workshop on Development of Generic Skills
- International conference on computing methodologies and communication (ICCMC 2019)
- Training on mathematical modeling and analysis using Matlab and Simulink
- Workshop on Computational Modelling using ANSYS Fluent
- Faculty development program on “Role of OBE in Teaching and Learning”
- Python using AI workshop
- E-learning workshop for Teachers
- FDP (Online) on Outcome-Based Education & NBA Accreditation,

Publications

Sr. No.	Title of paper	Level	Seminar / conference / journal organized by	Place / Duration
1	Automated steam bath system for clinical applications	International conference	International conference at PIET, Pune	19-12-2004 to 21-12-2004
2	Matlab based linear control system analysis	National conference	National conference at Annasaheb Dange College of Engineering, Asta	15-01-2010 to 16-01-2010
3	Matlab based linear control system analysis	International conference	J J Magdum College of Engineering, Jaysingpur	20-02-2010 to 21-02-2010
4	Matlab based linear control system in time domain	National	PVPIT, Budhgaon	18-02-2013 to 19-02-2013
5	A survey on optimal tuning PI controller or integrator delay time process	International Journal	International Journal [IJIRCCE]	Vol 4, December 2016

Sr. No.	Title of paper	Level	Seminar / conference / journal organized by	Place / Duration
6	Design of PID controller integrator system with time delay and DIP	International journal	International Journal [IJIRCCE]	Vol 4, December 2016
7	Controller tuning for integrator plus delay processes	International Journal	International Journal of Engineering and Science (IJES)	Vol 6, June 2017
8	Implementation of PID using STAS well process with effective interfacing	International journal	International Journal [IJIRCE]	Vol 7, March 2019
9	SMC action with PI sliding for non linear plant along with changing set point	IEEE conference	IEEE conference organized by Surya Engg. College, Tamil Nadu	27-03-2019 to 29-03-2019
10	Implementation of SMC control actin for non linear plant	International Journal	International journal of Innovative Technology and Exploring Engineering. (IJITEE)	Vol 4, June 2019
11	Speed Control of DC Motor Using Artificial Bee Colony Optimization technique	International Journal	International Journal of Advanced Research in Electrical, Electronics, and Instrumentation Engineering (IJAREEIE)	Volume 10, May 2021

Sr. No.	Title of paper	Level	Seminar / conference / journal organized by	Place / Duration
12	Robust Predictive Speed Regulation of Converter-Drive n DC Motors via a Discrete-Time Reduced-Order GPIO with Genetic Algorithm	International Journal	International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering	Volume 10, May 2021
13	Predictor Based Disturbance Rejection Control For Sampled System with Input Delay	International Journal	International Journal For Research & Development in Technology	Volume 15, June 2021
14	Paper Classification of Dental Images using Teeth Instance Segmentation for Dental Treatment	International Conference	Recent Advances in Materials, Manufacturing and Machine learning (RAMMML-2022)	April 2022
15	Frequency Domain Based Tuning of PID Controller For Higher-Order Oscillatory System With Improved Performance	International Journal	International Journal of Research And Analytical Reviews (IJRAR)	Vol 7, July 2020
16	Advanced genetic algorithm-based PID controller	International Journal	International Journal Modelling,	Volume 41, 2022

Sr. No.	Title of paper	Level	Seminar / conference / journal organized by	Place / Duration
	for air levitation system		Identification and Control	
17	Vision Based Drowsiness Detector for Real Driving Conditions	International Journal	International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)	Volume 11, April-2024
18	Healthcare Card :- Disease Prediction: Exercise Recommendation: Medicine Recommendation Using Neural Network	International Journal	International Journal of Innovation Research in Computer and Communication Engineering	Volume 12, April 2024
19	Implementation Paper Brain Tumor Detection Using Convolutional Neural Networks in MRI Images	International Journal	International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)	Volume 11, April 2024
20	Proportional Integral Derivative Controller based Multiple Dominant Pole-Placement for Controlling	International Journal	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)	vol. 13, 2024

Sr. No.	Title of paper	Level	Seminar / conference / journal organized by	Place / Duration
	Integrating Processes			
21	Single Pole Placement Technique based Designing of Proportional Integral Derivative Controller for Integrating Processes	International Journal	International Journal of Innovative Research in Computer and Communication Engineering	vol. 12, 2024.
22	Eviora: A Women's safety application	International Journal	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	Volume 13, 2025
23	Enhanced Secure Image Steganography Using Adaptive LSB and XOR Encryption in Embedded C	International Journal	International Journal of Multidisciplinary Research in Science, Engineering and Technology	Volume 9, Issue 1, Jan 2026
24	Design and Implementation of an ArduinoBased Automated Target Detection and Tracking System Using Ultrasonic Sensing	International Journal	International Journal of Innovative Research in Computer and Communication Engineering	Volume 14, Issue 2, Feb 2026

Sr. No.	Title of paper	Level	Seminar / conference / journal organized by	Place / Duration
25	EV Battery Exchange Charging System with a Diesel Generator Set and Solar PV Powered Battery	International Journal	International Journal of Innovative Research in Science	Volume 15, Issue 3, Mar 2026
26	Implementation Paper on AI-Based Plant Disease	International Journal	International Journal of Innovative Research in Computer and Communication Engineering	Volume 14, Issue 3, March 2026
27	TALKSYNC: Speech-Driven Lip Synchronization using AI	International Journal	International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)	Volume 15, Issue 3, March 2026
28	Speech-Driven Lip Synchronization using AI	International Journal	International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)	Volume 15, Issue 1, January 2026

Key Academic & Administrative Contributions

- Development of Electronics/Instrumentation and Artificial Intelligence laboratories.
- Organization of workshops and seminars for industrial development and industrial visits for students.
- Establishment and management of a Yashwantrao Chavan Maharashtra Open University center offering technology degree and diploma courses, contributing to revenue generation for the polytechnic.
- Implementation of short-duration courses in automation to strengthen revenue-generating activities.

- Organization of annual Entrepreneurship Development workshops during tenure as Principal with central-government funding.
- Coordination of induction training programmes for teachers with support from the Maharashtra Government.
- Coordination of MSBTE-sponsored staff development programmes and State-level project competitions for final-year students.

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