PERSONAL PARTICULARS

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BALASAHEB MAHARUDRAPPA PATRE

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Dr. Balasaheb M. Patre
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Date of Birth	Place of Birth	Sex :	
16.05.1965	Basmathnagar, Maharashtra, India	Male	**Nationality :** Indian **Religion :** Hindu **Marital Status :** Married **Blood Group:** A+ve

EDUCATIONAL QUALIFICATION: Ph. D. (IIT Bombay, Mumbai)

From	To	Institutions attended	Qualification Obtained
1970	1980	Mahatma Phule High School, Kalamnuri	SSC, Mar. 1980, Distinction, 75.7% Marks
1980	1982	N. E. S. Science College Nanded	HSC, Mar. 1982, First Class, 67.5% Marks
1982	1986	SGGS College of Engineering and Technology, Vishnupuri, Nanded, 431606, India	B. E. (Instrumentation), June 1986, First Class with distinction, 72.73% Marks
1987	1990	SGGS College of Engineering and Technology, Vishnupuri, Nanded, 431606, India	M. E. (Instrumentation), Jan. 1991, First Class with distinction, 77.6% Marks, **First in University∗**
1994	1998	Indian Institute of Technology, Bombay, Mumbai, 400076, India	Ph. D. April 1998∗
2007	2009	Welingkar Institute of Management (Distance Learning)	One year Post Graduate diploma in Human Resource Management, **A+ Grade**

∗ **M. E. Topic:** "Microprocessor based Multipurpose Instrument for Measurement of Electrical Quantities"

∗ **Ph. D. Topic:** "Output Feedback Control by System Decomposition and Order Reduction"

Present Appointment	Name and address of employer:
	Director, SGGS Institute of Engineering and Technology, Vishnupuri, Nanded, 431606, India
Position: Professor	**Date of Present Appointment:** 16.07.2001
Previous Appointments	**Dean (R&D) from Feb. 2005-Feb. 2009, (Four year), SGGSIE&T, Nanded** **Head, Department of Instrumentation Engineering from 02 March 2009 – 02 July 2012.** **Dean (International Relations) from September 2014 to August 2016.** **Head (Electrical Engineering) from 13th August 2015 to 15th June, 2018.** **Dean (Finance and Resource Mobilization) from 16th June, 2018 to this date.**

From	To	Employer (Name and address)	Position Held
18.08.1986	15.07.1993	Principal, SGGS Institute of Engineering and Technology, Vishnupuri, Nanded, 431606, India	Lecturer
16.07.1993	15.07.2001	Principal, SGGS Institute of Engineering and Technology, Vishnupuri, Nanded, 431606, India	Assistant Professor
16.07.2001	This date	Director, SGGS Institute of Engineering and Technology, Vishnupuri, Nanded, 431606, India	Professor

Membership of Professional Institutional or Societies:

- Life Member, Instrument Society of India, Bangalore (ISOI, No: 1276)
- Fellow of Institution of Engineers (India) (No: F-112098-7)
- Senior Member of IEEE (USA) (No: 80266029)
- Member of IET (formerly IEE) (UK No: 1100329865)
- Member of Institution of Electronics and Telecommunication Engineers (MIETE), New Delhi. (No: 90056, 19th Feb. 1992)
- Life Member of Indian Society for Technical Education (LMISTE), New Delhi (No: LM 4186, Year: 1989)
- Member of International Association of Engineers (IAENG) (No. 65211)

Professional Recognition

Regular Reviewer for Referred International Journals: (Only SCI/SCIE indexed journals by Thomson Reuter are mentioned with number of papers reviewed in bracket)

1. IEEE Transaction on Automatic Control (01)
2. IEEE Transaction on Instrumentation and Measurement (03)
3. IEEE Transaction on Industrial Electronics (03)
4. IEEE/ASME Transactions on Mechatronics (02)
5. IEEE Transactions on Systems, Man and Cybernetics: Systems (03)
6. IET Proceedings-Control Theory and Applications-Part-D, (04)
7. IET Proceedings-Generation, Transmission and Distribution-Part F, (01)
8. IET Proceedings-Radar, Sonar and Navigation (02)
9. Annals of Nuclear Energy (Elsevier publication) (06)
10. Nuclear Engineering and Design (Elsevier publication) (03)
11. Journal of Process Control (Elsevier Publication) (03)
12. ISA Transactions (Elsevier publication) (26)

13. Measurement (Elsevier publication)   (02)
14. Aerospace Science and Technology (Elsevier Publications)   (01)
15. Journal of the Franklin Institute (Elsevier publication)   (02)
16. Computers and Electrical Engineering (Elsevier publication)   (06)
17. Applied Soft Computing (Elsevier publication)   (01)
18. International Journal of Control (Taylor and Francis publication)   (01)
19. Chemical Engineering Communications (Taylor and Francis publication)   (01)
20. Instrumentation Science and Technology (Taylor and Francis)   (02)
21. International Journal of System Science (Taylor and Francis publication)   (02)
22. Journal of Systems and Control Engineering (Taylor and Francis Publication)   (01)
23. Advances in Mechanical Engineering (Sage Publication)   (01)
24. Transaction of the Institute of Measurement and Control (Sage Publication)   (14)
25. Computing Journal (Springer Publication)   (01)
26. Journal of Medical Systems (Springer Publication)   (02)
27. Nonlinear Dynamics (Springer Publication)   (01)
28. International Journal of Dynamics and Control (Springer Publication)   (02)
29. Proceedings of the National Academy of Sciences, India Section A: Physical Sciences (Springer Publications)   (01)
30. International Journal of Application of Computers in Technology   (01)
31. International Journal of Modeling, Identification and Control   (01)
32. Journal of Composite Materials   (01)
33. Review of Scientific Instruments   (01)
34. Iranian Journal of Electrical Engineering   (01)
35. International Journal of Robust and Nonlinear Control (Wiley Publications)   (01)
36. Journal of Dynamic Systems, Measurement, and Control Systems (ASME)   (01)
37. Asian Journal of Control (Wiley Publications)   (01)
38. Mechanical Systems and Signal Processing (Elsevier Publication)   (01)

Total papers reviewed: **(106)**

- Regular Reviewer for Referred IEEE conferences such as ICIT, ACC, ISCAS, ECC, CDC, MSC, ICC, IFAC workshop on VSS, ICRA, MSC, ICC etc.
- Editorial Board member of International Journal of Engineering Research and Industrial Applications
- National Advisory Committee member for 12th IFAC International workshop on Variable Structure Systems held at IIT, Bombay during January 12-14, 2012.
- Chaired a session on Control Systems at IEEE Conference on Industrial Technology, ICIT-2000 held at Goa during December, 2000.
- Technical Chair for National Level Conference on Signal Processing, Communication and Control, SPCCN-2005 held at VIT, Pune during 1-4 July, 2005.
- Technical Chair for National Level Conference on Signal Processing and Automation (NCSPA07) held at D. Y. Patil Institute of Engineering and Technology, Pune held during 6-8 September, 2007.
- Reviewer for International Conference on Emerging Trends in Engineering and Technology held at G. H. Raisoni College of Engineering, Nagpur, India, July 16-18, 2008.
- Technical Member, Reviewer and advisor to several national and international conferences held in India. ((ICETET-10 at BITS Goa, BEATs-10 at NIT Jalandhar, ICISC-10. at ADIT, Gujarat)
- Convener, National Conference on Instrumentation, Control and Signal Processing (ICSP-2013), held at SGGSIE&T, Nanded, 8-9 July 2013.
- Publication Chair, National Conference on TEQIP-II: Best Policies and Practices", held at SGGSIE&T, Nanded, 14-15 January, 2014.
- Chaired a session on Control Application at Second Indian Control Conference, ICC-2016 held at IIT, Hyderabad during 4-6th January, 2016.
- **Selected for Listing in 2007, 25th edition of Marquis "Who's Who" in the world.**

- Joint Organizing Secretary for International Conference on Technological Advances in Climate-Smart Agriculture and Sustainability (TACSAS) to be held during 16-18 January 2017 at SGGS Institute of Engineering and Technology, Nanded, India

Awards:

1. **IEEE-International award** (Cash award US $400), for the paper, -V. G. Sangam, and **B. M. Patre**., "Instrumentation for Amperometric Biosensor using Bio-bench" 2nd **IEEE International Summer School and Symposium on Medical Devices and Biosensors**, Chinese University, Hong Kong, July 1 and 2, 2004.

2. **International Conference of Society of Instrumentation and Control Engineering (SICE), Japan**, recommended the paper for International award (one of the five finalist), V. G. Sangam, and **B. M. Patre**, "Development of Computer Based Amperometric Biosensor for the analysis of Glucose Concentration", **International Conference of SICE-Japan, Okayama University, Okayama, Japan**, August 8-10, 2005.

3. **IEEE-International award** (Cash award US $250 and free registration), for the paper- **B. M. Patre** and P. J. Deore, "Robust PI Controller Design for an Uncertain Recycle System", IEEE Conference on Decision and Control and European Control Conference, IEEE CDC-ECC-05 held at Seville, Spain 12-15, pp. 2386-2390, December, 2005.

4. **Received Outstanding Reviewer Award** as a Reviewer
   a. **Journal Annals of Nuclear Energy and**
   b. **Nuclear Engineering and Design** (Elsevier Journals, SCI indexed)

5. **Best Teacher Award** from Yuvak Pratishathan, Parbhani.

6. **Certificate of Excellent Performance** is awarded by the Regional office of Director of Technical Education, Aurangabad.

RESEARCH PUBLICATIONS:

Book	**06**
Book Chapter	**05**
Referred International/National Journals	**81**
Referred International Conferences	**70**
Referred National Conference	**23**
Total	**185**

Books:

[1] R. K. Munje, B. M. Patre, and A. P. Tiwari, "Investigation of Spatial Control Strategies: Application to Advanced Heavy Water Reactor", Advances in Energy Systems Series, Springer Verlag, Germany, 2017.

[2] A. K. Chakrabarti, M. L. Waikar, **B. M. Patre**, and S. S. Gajre (Editors), "Proceedings of National Conference on TEQIP-II: Best Policies and Practices", (ISBN: 978-93-83842-01-8), Excel Publishers, New Delhi, January, 2014.

[3] **B. M. Patre**, R. H. Chile, S. T. Hamde, and R. S. Holambe (Editors), "Proceedings of National Conference on Instrumentation, Control, and Signal Processing (ICSP-2013)", (ISBN: 978-93-82800-47-9), Excel Publishers, New Delhi, July, 2013.

[4] S. S. Salankar, and **B. M. Patre** "Sonar and Radar Signal Classification: Neural Network Based Approaches", (ISBN 978-3-8473-4017-1), LAP LAMBERT Academic Publishing, Germany, January, 2012.

[5] V. G. Asutkar, **B. M. Patre,** and T. K. Basu "Linear Time-Varying System Identification: Different Approaches", (ISBN 978-3-8473-0682-5), LAP LAMBERT Academic Publishing, Germany, December, 2011.

[6]   **B. M. Patre**, and P. J. Deore "Robust Control for Parametric Uncertain Systems: An Interval Arithmetic Approach", (ISBN 978-3-6391-9079-3), VDM-Verlag, Germany, September 2009.

A.   Book Chapter:

[1]   A. A. Khandekar, and B**. M. Patre** "Design and Application of Discrete Sliding Mode Controller for TITO Process Control Systems", in book "*Advances and Applications in Sliding Mode Control Systems"* Studies in Computational Intelligence (ISBN 978-3-319-11172-8), Vol. 576, pp. 255-277, 2015, Springer-Verlag USA.

[2]   **B. M. Patre**, V. M. Panchade and R. M. Nagarale "Sliding Mode Control of DC Drives", *book on Sliding Mode Control, (ISBN 978-953-7619-X-X),* In-Tech Publishers, Vienna, Austria, PP. 168-180, 2011.

[3]   V. G. Asutkar and **B. M. Patre** "Identification of Linear Time-Varying System: Kalman Filter Approach" accepted in book "*Intelligent Industrial Systems: Modelling, Automation and Adaptive Behaviour"*. A book Edited by Dr. Gerasimos G. Rigatos and published by *IGI Global Publication*, Chapter 8, pp. 221-237, 2010.

[4]   S. K. Chidrawar, **B. M. Patre**, and L. M. Waghmare "Neural Generalized Predictive Control for Industrial Processes", *book Automation and Control-Theory and Practice, (ISBN 978-953-7619-39-8),* In-Tech Publishers, Vienna, Austria, pp. 199-230, 2009.

[5]   P. D. Shendge, **B. M. Patre**, and S. B. Phadke "Robust Load Frequency Sliding Mode Control based on Uncertainty and Disturbance Estimator", in book "*Recent Development in Industrial Engineering and Operation Research"* Lecture notes in Electrical Engineering, Vol. 5, pp. 361-374, Springer-Verlag USA, 2008.

B.   Refereed Journal Publications:

[1]   Kakoli Majumder and **B. M. Patre**, "Adaptive sliding mode control for asymptotic stabilization of underactuated mechanical systems via higher-order nonlinear disturbance observer", *Journal of Vibration and Control, (Sage Publishers),* 2019. (Impact Factor: 2.865)

[2]   V. M. Panchade, R. H. Chile, and **B. M. Patre**, "Quasi Continuous Sliding Mode Control with Fuzzy Switching Gain for an Induction Motor", *Journal of Intelligent and Fuzzy Systems* (IOS Press), Vol. 36, No. 2, pp. 1837-1854, 2019. (Impact Factor: 1.637).

[3]   P. S. Londhe and **B. M. Patre**, "Adaptive Fuzzy Sliding Mode Control for Robust Trajectory Tracking Control of an Autonomous Underwater Vehicle", *Intelligent Service Robotics,* Vol. 12, No. 1, (Springer Publishers), pp 87-102, 2019. (Impact Factor: 0.933).

[4]   R. K. Munje, D. Gu, Ranvir Desai, **B. M. Patre**, and W. Zhang, "Observer-based Spatial Control of Advanced Heavy Water Reactor using Time-Scale Decoupling", *IEEE Transaction on Nuclear Science,* Vol. 65, No. 11, pp. 2756-2766, Nov. 2018. (Impact Factor: 1.44).

[5]   R. S. Biyani and **B. M. Patre**, "Algorithms for Red Lesion Detection in Diabetic Retinopathy: A Review", *Biomedicine and Pharmacotherapy*, Vol. 107, pp. 681-688, 2018. (Impact Factor: 3.743)

[6]   **B. M. Patre**, P. S. Londhe, L. M. Waghmare, M. Santhakumar, "Disturbance Estimator based Nonsingular Fast Fuzzy Terminal Sliding Mode Control of An Autonomous Underwater Vehicle", *Ocean Engineering, (Elsevier Publishers),* Vol. 159, pp. 372-387, 2018. (Impact Factor: 2.73).

[7]   Kakoli Majumder and **B. M. Patre**, "Sliding Mode Control for Underactuated Mechanical Systems via Nonlinear Disturbance Observer: Stabilization of the Rotational Pendulum", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 6, No. 4, pp. 1663-1672, 2018. (Scopus indexed)

[8]   S. P. Sadala and **B. M. Patre**, "A new Continuous Sliding Mode Approach with Actuator Saturation for Control of 2-DOF Helicopter System", *ISA Transactions, (Elsevier Publishers),* Vol. 74, pp. 165-174, 2018. (Impact Factor: 4.343)

[9]   S. Mishra, P. S. Londhe, M. Santhakumar, S. K. Vishwakarma, and **B. M. Patre**, "Task Space Robust Motion Control of a Mobile Manipulator using a Nonlinear Control with an Uncertainty Estimator", *Computers and Electrical Engineering, (Elsevier Publishers),* Vol. 67, pp. 729-740, 2018. (Impact Factor 2.189)

[10]   M. R. Bongulwar and **B. M. Patre**, "Design of FOPID Controller for Fractional Order Plants with Experimental Verification", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 6, No. 1, 213-223, 2018. (Scopus indexed)

[11]   B. B. Musmade, A. A. Khandekar and **B. M. Patre**, "Sliding Mode Control Design for Robust Tracking of Open Loop Stable Processes with Experimental Application", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 5, No. 4, pp. 1201-1210, 2017. (Scopus indexed)

[12]   B. J. Parvat and **B. M. Patre**, "Fast Terminal Sliding Mode Controller for Square Mutlivariable Processes with Experimental Application", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 5, No. 4, pp. 1139-1146, 2017. (Scopus indexed)

[13]   P. S. Londhe, Dinesh Dhadekar, and **B. M. Patre**, and L. M. Waghmare "Uncertainty and disturbance estimator based sliding mode control of an autonomous underwater vehicle", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 5, No. 4, pp.1122-1138, 2017. (Scopus indexed)

[14]   S. N. Pawar, R. H. Chile, and **B. M. Patre**, "Modified Reduced Observer based Linear Active Disturbance Rejection Control for TITO Systems", *ISA Transactions, (Elsevier Publishers),* Vol. 72, Part 2, pp. 480-494, 2017 (Impact Factor 3.37)

[15]   A. A. Khandekar and **B. M. Patre**, "Decentralized Discrete Time Sliding Mode Control for TITO Systems with Time Delay with Experimental Application", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 5, No. 3, pp. 614-628, 2017. (Scopus indexed)

[16]   V. D. Hajare, **B. M. Patre**, and A. A. Khandekar, "Decentralized PID Controller Design for TITO Processes with Experimental Validation", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 5, No. 3, pp. 583-595, 2017. (Scopus indexed)

[17]   M. R. Bongulwar and **B. M. Patre**, "Design of $PI^{\lambda}D^{\mu}$ Controller for Global Power Control of Pressurized Heavy Water Reactor", *ISA Transactions, (Elsevier Publishers),* Vol. 69, pp. 234-241, July, 2017 (Impact Factor 3.37)

[18]   P. S. Londhe, S. Mohan, **B. M. Patre** and L. M. Waghmare, "Robust Task-Space Control of an Autonomous Underwater Vehicle-Manipulator System by PID-like Fuzzy Control Scheme with Disturbance Estimator", *Ocean Engineering, (Elsevier Publishers),* Vol. 139, pp. 1-13, 2017. (Impact Factor 2.214)

[19]   Dinesh. Dhadekar and **B. M. Patre**, "UDE based Decoupled Full-Order Sliding Mode Control for a Class of Uncertain Nonlinear MIMO Systems", *Nonlinear Dynamics, (Springer Publishers),* Vol. 88, pp. 263-276, 2017. (Impact Factor 4.339)

[20]   P. S. Londhe, **B. M. Patre**, and L. M. Waghmare "Robust Proportional Derivative (PD)-like Fuzzy Control Designs for Diving and Steering Planes Control of an Autonomous Underwater Vehicle", *Journal of Intelligent and Fuzzy Systems, (IOP Press),* Vol. 32, No. 3, pp. 2509-2522, 2017. (Impact Factor: 1.426)

[21]   V. D. Hajare, A. A. Kahndekar and **B. M. Patre**, "Discrete Sliding Mode Control with Reaching Phase Elimination for TITO Systems", *ISA Transactions, (Elsevier Publishers),* Vol. 66, pp. 32-45, 2017. (Impact Factor 3.37)

[22] M. R. Bongulwar and **B. M. Patre**, "Stability Regions of Closed Loop Systems with One Non-Integer plus Time-Delay Plant by Fractional Order PID Controller", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 5, No. 1, pp. 159-167, 2017.

[23] P. S. Londhe, M. Santhakumar, **B. M. Patre,** and L. M. Waghmare, "Task Space Control of an Autonomous Underwater Vehicle-Manipulator System by Robust Single-Input Fuzzy Logic Control Scheme" *IEEE Journal of Oceanic Engineering,* Vol. 42, No. 1, pp. 13-28, 2017. (Impact Factor 2.297)

[24] P. S. Londhe, Yogesh Singh, M. Santhakumar, **B. M. Patre,** and L. M. Waghmare, "Robust nonlinear PID-like fuzzy logic control of a planar parallel (2PRP-PPR) manipulator" *ISA Transactions, (Elsevier Publishers),* Vol. 63, pp. 218-232, 2016. (Impact Factor 3.394)

[25] R. K. Munje, **B. M. Patre,** "Spatial Power Control of Singularly Perturbed Large Nuclear Reactor" *Journal of Control Engineering and Applied Informatics,* Vol. 18, No. 3, pp. 22-29, 2016. (Impact Factor 0.695)

[26] R. K. Munje, **B. M. Patre,** P. S. Londhe, A. P. Tiwari, and S. R. Shimjith, "Spatial Control of Advanced Heavy Water Reactor: A Comparative Study" *IEEE Transaction on Nuclear Science,* Vol. 63, No. 2, pp. 1236-1246, 2016. (Impact Factor 1.198)

[27] R. K. Munje, **B. M. Patre,** and A. P. Tiwari, "Discrete-Time Sliding Mode Spatial Control of Advanced Heavy Water Reactor" *IEEE Transaction on Control Systems Technology,* Vol. 24, No. 1, pp. 357-364, 2016. (Impact Factor 2.818)

[28] S. S. Bhase, M. J. Lengare, and **B. M. Patre**, "Tuning of robust FO[PI] plus fractional lead controller for integrating time-delay systems", *International Journal of Automation and Control, (Inderscience Publishers).* Vol. 9, No. 3, pp. 247-257, 2016.

[29] R. M. Nagarale and **B. M. Patre**, "Exponential Function Based Fuzzy Sliding Mode Control of Uncertain Systems", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 4, No. 1, pp. 67-75, 2016.

[30] D. Ginoya, P. D. Shendge, **B. M. Patre,** and S. B. Phadke, "A New State and Perturbation Observer based Sliding Mode Controller for Uncertain Systems", *International Journal of Dynamics and Control, (Springer Publishers),* Vol. 4, No. 1, pp. 92-103, 2016.

[31] **B. M. Patre,** P. S. Londhe, and R. M. Nagarale, "Fuzzy Sliding Mode Control for Spatial Control of Large Nuclear Reactor" *IEEE Transaction on Nuclear Science,* Vol. 62, No. 5, pp. 2255-2265, 2015. (Impact Factor 1.455)

[32] V. D. Hajare and **B. M. Patre**, "Decentralized PID Controller for TITO Systems using Characteristic Ratio Assignment with an Experimental Application", *ISA Transactions, (Elsevier Publishers),* Vol. 59, pp. 385-397, 2015. (Impact Factor 2.984)

[33] R. K. Munje, J. G. Parkhe and **B. M. Patre** "Control of Xenon Oscillations in Advanced Heavy Water Reactor via Two-stage Decomposition", *Annals of Nuclear Energy (Elsevier Publication),* Vo. 77, pp. 326-334, 2015. (Impact Factor 0.960)

[34] R. K. Munje, **B. M. Patre,** and A. P. Tiwari, "Periodic Output Feedback for Spatial Control of AHWR: A Three-Time-Scale Approach" *IEEE Transaction on Nuclear Science,* Vol. 61, No. 4, pp. 2373-2382, 2014. (Impact Factor 1.455)

[35] B. B. Musmade and **B. M. Patre**, "Sliding mode control design for robust regulation of time-delay processes", In Press, *Transactions of the Institute of Measurement and Control,* 2014. (Impact Factor 0.962)

[36] A. A. Kahndekar, and **B. M. Patre** "Discrete Sliding Mode Control for Robust Tracking of Time Delay Systems", *Systems Science and Control Engineering: An Open Access Journal (Taylor and Francis Publications),* Vo. 2, No. 1, pp. 457-464, 2014.

[37] P. S. Londhe, **B. M. Patre**, and A. P. Tiwari "Fuzzy-like PD Controller for Spatial Control of Advanced Heavy Water Reactor", *Nuclear Engineering and Design, (Elsevier Publishers),* Vol. 274, pp. 77-89, 2014. (Impact Factor 0.952)

[38]   S. S. Bhase, and **B. M. Patre** "Robust FOPI controller design for power control of PHWR under step-back condition", *Nuclear Engineering and Design, (Elsevier Publishers),* Vol. 274, pp. 20-29, 2014. (Impact Factor 0.952)

[39]   R. M. Nagarale and **B. M. Patre**, "Composite Fuzzy Sliding Mode Control of Nonlinear Singularly Perturbed Systems", *ISA Transactions, (Elsevier Publishers),* Vol. 53, No. 3, pp. 679-689, 2014. (Impact Factor 2.984)

[40]   P. S. Londhe, **B. M. Patre,** and A. P. Tiwari, "Design of Single Input Fuzzy Logic Controller for Spatial Control of Advanced Heavy Water Reactor" *IEEE Transaction on Nuclear Science,* Vol. 61, No. 2, pp. 901-911, April 2014. (Impact Factor 1.455)

[41]   R. K. Munje, **B. M. Patre**, and A. P. Tiwari "Non-linear simulation and control of Xenon induced oscillations in Advanced Heavy Water Reactor", *Annals of Nuclear Energy (Elsevier Publication),* Vo. 64, pp. 191-200, 2014. (Impact Factor 0.960)

[42]   D. K. Maghade, and **B. M. Patre**, "Pole Placement using PID Controllers for Achieving Time Domain Specifications for TITO Systems", *Transactions of the Institute of Measurement and Control, (Sage Publications),* 2014. (Impact Factor 0.962)

[43]   V. M. Panchade, R. H. Chile, and **B. M. Patre**, "A Survey on Sliding Mode Strategies for Induction Motors", *Annual Reviews in Control (Elsevier Publication),* Vol. 37, No. 2, pp. 289-307, 2013. (Impact Factor 1.878)

[44]   R. M. Nagarale and **B. M. Patre**, "Neural-Fuzzy Sliding Mode Control of Nonlinear Systems", *International Journal of Advanced Mechatronic Systems, (Inderscience Publishers)*, Vol. 5, No. 3, pp. 209-219, 2013.

[45]   R.K. Munje, **B. M. Patre,** S. R. Shimjith, and A. P. Tiwari, "Sliding Mode Control for Spatial stabilization of Advanced Heavy Water Reactor" *IEEE Transaction on Nuclear Science,* Vol. 60, No. 4, pp. 3040-3050, 2013. (Impact Factor 1.455)

[46]   Harsha R. Mokadam, D. K. Maghade and **B. M. Patre**, "Tuning of Multivariable PI/PID Controllers for TITO Processes using Dominant Pole Placement Approach", *International Journal of Automation and Control, (Inderscience Publishers).* Vol. 7, No. 1/2, pp. 21-41, 2013.

[47]   B. B. Musmade and **B. M. Patre**, "Feedforward-plus-Sliding Mode Controller Design with Experimental application of Coupled Tank System", *Transactions of the Institute of Measurement and Control,* Vol. 35, No. 8, pp. 1058-1067, 2013. (Impact Factor 0.736)

[48]   **B. M. Patre** and R. J. Bhiwani, "Robust Controller Design for Fuzzy Parametric Uncertain Systems: An Optimal Control Approach", *ISA Transactions, Elsevier Publication,* Vol. 52, No. 2, pp. 184-191, 2013. (Impact Factor 2.256).

[49]   A. A. Khandekar and **B. M. Patre**, "Discrete Sliding Mode Control for Robust Tracking of Higher Order Delay Time Systems with Experimental Application", *ISA Transactions, Elsevier Publication,* Vol. 52, No. 1, pp. 36-44, January, 2013. (Impact Factor 2.256).

[50]   D. K. Maghade and **B. M. Patre**, "Decentralized PI/PID Controllers based on Gain and Phase Margin Specifications for TITO Processes", *ISA Transactions,* Vo. 51, No. 4, pp. 550-558, July, 2012. (Impact Factor 1.626).

[51]   P. J. Deore and **B. M. Patre** "Robust Stability and Performance of Interval Process Plant with Interval Time Delay" *Transactions of the Institution of Measurement and Control,* Vol. 34, No. 5, pp. 627-634, July 2012, (Impact Factor 0.656).

[52]   R. J. Bhiwani and **B. M. Patre**, "Design of Robust PI/PID Controller for Fuzzy Parametric Uncertain Systems", *International Journal of Fuzzy Systems,* Vol. 13, No. 1, pp. 16-23, 2011. (Impact Factor 1.36).

[53]   R. J. Bhiwani and **B. M. Patre**, "Stability Analysis of Fuzzy Parametric Uncertain Systems", *ISA Transactions,* Vol. 50, No. 4, pp. 538-547, 2011. (Impact Factor 1.109).

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[10] P. D. Shendge and **B. M. Patre**, "Model Following Sliding Mode Control with TDC and UDE" National Conference on Signal Processing and Automation held at D. Y. Patil Institute of Engineering and Technology, Pune, pp. (xxxv-xxxix) , 6-8 September, 2007 (Invited Paper)

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[12] S. S. Salankar and **B. M. Patre**, "Intelligent Process Control with Adaptive Neuro-Fuzzy Inference System" National Conference on Knowledge Based Automation of Software Engineering, Organized by Synergy Institute of Engineering and Technology, Dhenkanal, Orissa, pp. 79-86, 2003

[13] S. S. Salankar and **B. M. Patre**, "Modeling of Liquid Saturated Steam Heat Exchanger using Adaptive Network Fuzzy Inference System" National Conference on Knowledge Based Automation of Software Engineering, Organized by Synergy Institute of Engineering and Technology, Dhenkanal, Orissa, pp. 38-42, 2003

[14] V. G. Sangam and **B. M. Patre**, "Instrumentation for amperometric biosensor", Proc. National Symposium on Instrumentation, Bharthier University, Coimbatore, pp. 60, Nov 27 – 29, 2002.

[15] V. G. Sangam and **B. M. Patre**,, "Performance analysis of a biosensor using Biobench", National Symposium on Instrumentation, Pant University of Agriculture and Technology, Pantanagar, pp. 62, Nov 03 – 05, 2003.

[16] **B. M. Patre** and B. Bandyopadhyay, "Simultaneous Stabilization of Higher Order System and its Reduced Model", *Nineteenth National Systems Conference*, Coimbatore, pp. 175-177, 14-16 Dec., 1995.

[17] V. G. Sangam and **B. M. Patre**, "Instrumentation for Amperometric Biosensor" *National Symposium on Instrumentation, Agriculture University,* Pantnagar, Uttaranchal, November 2002.

[18] V. G. Asutkar, **B. M. Patre** and T. K. Basu Analysis and Visualization of Time-Varying Data using Wavelet Transform", *National Symposium on Instrumentation, Agriculture University,* Pantnagar, Uttaranchal, November 2002.

[19] V. G. Asutkar, **B. M. Patre** and T. K. Basu, "Wavelet Transform: A Tool for Linear Time-Varying System Identification", *National Symposium on Instrumentation, Agriculture University,* Pantnagar, Uttaranchal, November 2002

[20] **B. M. Patre** and C. B. Deshpande, "Microprocessor Based Multipurpose Instrument for Measurement of Electrical Quantities", *National Conference on Real Time Systems* held at SGS ITS, Indore, India, pp. 154-158, 23-24 Feb. 1991.

[21] L. M. Waghmare, C. M. Soman and **B. M. Patre**, "Microprocessor Based Batch Distillation Control", *National Conference on Real Time Systems* held at SGS ITS, Indore, India, pp. 189-193, 23-24 Feb. 1991.

[22] **B. M. Patre** and C. B. Deshpande, "Microprocessor based Power Meter", *All India Conference on Applied Instrumentation,* University of Roorkee, India, pp. 41-43, 14-15 Feb., 1992.

[23] **B. M. Patre** and Waghmare L.M., "Entrepreneurial Motivation Amongst the Engineering Students", at seminar on Role and Responsibility of Technical Educational institute in Innovation and Entrepreneurship, organized at SGGSCE&T, Nanded, during 20-21 Jan., 1990.

R&D EXPERIENCE:

Research and Development Project Completed: 11, In Progress: 01 Total Cost: 156.2 Lakhs

Sr. No.	Title of the Project	Funding Agency	Amount in Lakhs	Status
1	Stochastic Observers for Flux Mapping of AHWR	BRNS	32.00	Recommended for Grant
2	Design of Intelligent Controllers for Under Water Autonomous Vehicles (Co-Investigator)	DRDO-NRB	24.61	Completed 2016
3	Modernization of Computational Facilities (Principal Investigator)	AICTE	8.00	Completed 2014

4	Comparison of Controllers for Power Control of Advanced Heavy Water Reactor (Principal Investigator)	BRNS	18.94	Completed September 2013
5	Establishment of Institute-Industry Interaction Cell (Chief Coordinator)	AICTE/IIPC	8.00	Completed (2009-11)
6	Design and development of ANN based controllers for on line process control applications (Co-Investigator)	AICTE	5.00	Completed in 2011
7	Design of Fuzzy Logic Controller for Advanced Heavy Water Reactor (Principal Investigator)	BARC	10.15	Completed in 2008
8	Strengthening the Post Graduate Teaching and Research Laboratory in Instrumentation and Control for Instrumentation Department (Program Coordinator)	DST-FIST	25.00	Completed 2010
9	Design and Implementation of Hierarchical Genetic Algorithm based Fuzzy Logic Controller (Principal Investigator)	AICTE	4.50	Completed in 2004
10	Development of Systems and Control Laboratory For Computer Process Control (Co-investigator)	AICTE	6.00	Completed in 2006
11	Centre for excellence in VLSI Design (Co-investigator)	AICTE	6.00	Completed in 2006
12	Opto-Electronics and Fiber Optics Instrumentation Laboratory (Co-investigator)	AICTE	8.00	Completed in 1995

Ph. D. Guidance: (17 Completed, and 07 in Progress)

Sr. No.	Name of the Student	Title of Dissertation	Status
1.	P. J. Deore	Robust analysis and design of control systems: An Interval Arithmetic approach	**Awarded on 14/11/2007**
2.	V. G. Sangam	Theoretical and Experimental Studies of an Amperometric Biosensor using PC based Instrumentation System	**Awarded on 29/11/2007**
3.	P. D. Shendge	Sliding Mode Controller Design for Uncertain and Nonlinear System Combined with Inertial Delay Control	**Awarded on 05/12/2007**
4.	S. S. Salankar	Some Studies on Neural Network based Classification of Sonar and Radar Signals	**Awarded on 06/12/2008**
5.	S. D. Poshattiwar	Investigations of Some Strategies for Control of Dynamical Systems Using Artificial Neural Networks	**Awarded on 02/07/2009**
6.	V. G. Asutkar	Some Studies on Identification of Linear-Time varying systems (Joint Guidance with Dr. T. K. Basu, IIT, Kgp)	**Awarded on 21/09/2010**
7.	R. J. Bhiwani	Robust Control of Systems with Fuzzy Parametric Uncertainty	**Awarded on 07/06/2011**
8.	D. K. Maghade	PI/PID controller design for multivariable systems	**Awarded on 11/05/2013**
9.	B. B. Musmade	Design of Sliding Mode Controllers for Process Control Applications	**Awarded on 28/09/2013**
10.	R. M. Nagarale	Fuzzy Sliding Mode Control of Uncertain and Nonlinear Systems	**Awarded on 18/07/2014**
11.	R. K. Munje	Investigation of Some Spatial Control Strategies for Advanced Heavy Water Reactor (Joint Guidance with Dr. A. P. Tiwari, Outstanding Scientist, BARC, Mumbai)	**Awarded on 31/03/2015**
12.	A. A. Khandekar	Sliding Mode Control strategies for control of Systems with Time-Delay	**Awarded on 25/06/2015**

13.	V. D. Hajare	Experimental Investigation of Robust Stability and Performance Analysis of Multivariable Systems	**Awarded on 08/07/2016**
14.	M. R. Bongulwar	Some Studies on Design of Fractional Order Controllers for Control Systems Applications	**Awarded on 29/04/2017**
15.	B. J. Parvat	Design of Second Order Sliding Mode Controller for Process Control Applications	**Awarded on 19/03/2018**
16.	P. S. Londhe	Some Studies on Control of Autonomous Underwater Vehicles	**Awarded on 28/04/2018**
17.	V. M. Panchade	Sliding Mode Control Strategies for Induction Motors (Joint Guidance with Dr. R. H. Chile)	**Awarded on 22/10/2018**
18.	A. K. Joshi	Analysis and Design of Instrumentation System for Induced Acoustic Emission Testing of Engineering Components	**Thesis Submitted**
19.	S. P. Sadala	Investigation of Some Sliding Mode Control Strategies for Uncertain Systems	**Thesis Submitted**
20.	Kakoli Majumder	Some Studies on Design of Sliding Mode Controller for an Underactuated Mechanical Systems	**Thesis Submitted**
21.	Roopali Biyani	Retinal Image Analysis for Screening of Diabetic Retinopathy	**In Progress**
22.	K. Chatlawar	Brain Image Abnormality Analysis	**In Progress**
23.	Ranvir J. Desai	Design of Power Distribution Control and Stochastic Observers for Flux Mapping for Advanced Heavy Water Reactor	**In Progress**
24.	S. S. Nerkar	Investigation of Uncertainty and Disturbance Estimation Based Techniques for Control System Applications	**In Progress**

List of M. Tech. Dissertations Guided: (41 Completed)

Sr. No.	Name of the Student	Title of Dissertation
1	P. J. Deore	Robust Control for Interval Plants
2	D. P. Choudhari	On Design of Variable Structure Control Systems
3	V. A. Ahirrao	Approximation of FIR by IIR Digital Filter Using Model Reduction Technique (Joint Guidance with Dr. Y. V. Joshi)
4	Ms. S. S. Pimple	Fuzzy Precompensated PID Temperature Controller (Joint Guidance)
5	S. G. Tharewal	Neural Networks for Nonlinear Internal Model Control
6	Ms. V. B. Mendhe	PC based Sprinkler Irrigation System
7	C. H. Chainpure	Conventional Fuzzy Control and its Enhancement
8	L. R. Choudhari	Model Reduction for Fixed and Interval Systems
9	R. D. Kokate	On Simultaneous Stabilization of SISO Linear Plants
10	K. Venugopal	Design and Implementation of PC based Batch Process Controller
11	M. N. Agarwal	Automatic Guided Vehicle
12	Ms. S. M. Rawangaonkar	Neural Network Based Temperature Controller
13	D. M. Patil	Design of Fuzzy Logic Controller using Genetic Algorithms
14	S. S. Pandharkar	Design and Simulation of Fuzzy Logic Controller using VHDL
15	A. D. Sayyad	Design of Variable Structure Control for Nonlinear Systems
16	Girish Joshi	Interval Arithmetic approach for Robust Control
17	Amol Dhonde	Design of Fuzzy Logic Controller for Advanced Heavy Water (AHWR) Control
18	P. P. Bhogle	Neuro-Fuzzy Temperature Controller
19	Dheeraj Magare	MODBUS Interfacing with GSM Modem
20	Ms. Vaishali Hake	Neural Network based Process Control.
21	G. A. Muke	Genetic Algorithms for PID Controller Tuning
22	V. M. Panchade	Sliding Mode Control for DC Drives (Joint Guidance with Dr. L. M. Waghmare)

23	S. A. Meti	Process Monitoring and Device Control Using ARM Processor and GSM Technology
24	B. V. Patil	Control of Heavy Water Nuclear Reactor
25	Ms. M. P. Marlecha	Sliding Mode Control for Rotary Inverted Pendulum
26	S. M. Pathade	Development of Digital Signal Processing and Control System Algorithms using LabView
27	Shivkumar Dhage	Speed and Position Control of DC Motor using Fuzzy Logic Controller
28	J. G. Parkhe	Some Studies on Control of Nuclear Reactor (Joint Guidance with Dr. S. T. Hamde)
29	M. S. Mule	Control of Advanced Heavy Water Reactor
30	Harsha R. Mokadam	Tuning of PI/PID Controllers for TITO Processes.
31	Yugmini B. Chavan	Some Studies on Sliding Mode Controller with Application to Chemical Process Control (Joint Guidance with Dr. S. T. Hamde)
32	Swapnil Bhase	Design of Fractional-Order Controllers for Process Control Applications
33	Pandurang S. Londhe	Spatial Control of Advanced Heavy Water Reactor
34	Roopali S. Biyani	Screening Methods for Detection of Diabetic Retinopathy
35	Ashish Pal	Designing of Fractional Order Control for Integer and Fractional Order Systems
36	Avinashkumar Maurya	Study and Development of Different Fractional Order Controllers for Non-Integer Order Plants
37	Sachin S. Shende	Control of Autonomous Underwater Vehicles
38	Amruta D. Kaldate	Magnetic Resonance Image Reconstruction based on Compressed Sensing
39	Mangesh B. Potbhare	Design of Sliding Mode Controller for Systems with Mismatched Uncertainties
40	Ranvir Desai	Active Disturbance Rejection Control for Process Control Application
41	Shrotika Yeote	Sliding Mode Control based on Uncertainty and Disturbance Estimation.

Continuing Education Programmes Coordinated:

Sr. No.	Title of the CEP	Duration	Funding Agency
1	SCILAB and its Application to Global Optimization and Fractional Differential Equations	April, 23-25, 2010	Open Source Software Project of National Mission on Education through Information and Communication Technology (ICT) through IIT, Bombay
2	ECG Analysis and Interpretations	17 February 2010	Self-sponsored
3	Effective Role Execution for Institutional Development.	February, 27-28, 2009	TEQIP-I
4	Recent Trends in Instrumentation and Control	27-29 Jan. 2006.	TEQIP-I
5	VLSI Design using VHDL	Two Weeks May 24-05 June, 2004	AICTE
6	Neural Network and Fuzzy Logic: Theory and Applications	Two Weeks 11-23 June, 2001	ISTE Approved Self-sponsored

Resource Person in Continuing Education Programme (Few of them mentioned below):

1. Delivered lecture on "Research Methods" in AICTE SDP on Recent advances in Speech, Signal, and Video Processing, at SGGSIE&T, Nanded on 22 December, 2011.
2. Conducted one-day workshop on "Successful Implementation of NBA" at College of Engineering, Ambajogai on 21 December, 2011.
3. Conducted two days' workshop on "Research Methods" at R. C. Patel Institute of Technology, Shirpur during May 25-26, 2011.
4. Delivered a series of lectures on MATLAB and Simulink at College of Engineering, Ambajogai during March 2010, Rural Engineering College, Pravaranagar, 2010, A. G. Awate Engineering College, Pune, 2011.
5. Delivered expert lectures on "Sliding Mode Control and Applications" at PDVVVP College of Engineering, Ahmadnagar on 29 January, 2008
6. Delivered a Lecture on "Fuzzy Logic Control" at Nuclear Reactor Control Division, BARC, Mumbai on 17 April, 2006.
7. Worked as a resource person in a Workshop on "Recent Trends on Hydraulics Engineering" and delivered lecture on "Application of Fuzzy Logic", at SGGSIE&T, Nanded during April 2006.
8. Faculty Advisor for National level students Conference on "Instrumentation and Control, ICON-2006" during 04-05, March, 2006 held under TEQIP Networking activity.
9. Developed Course material for ISTE approved Two Weeks Short Term Training Programme on "Neural Network and Fuzzy Logic: Theory and Applications"
10. Conducted a session on "Fuzzy Control" in a STTP on "Advanced Signal and Image Processing Applications in Instrumentation" at VIT, Pune during 27 March-10 April, 2004.
11. Delivered Lectures in "Computer Orientation Course for Commerce Teachers" Jointly organized by Swami Ramanand Teerth Marathwada University, Nanded and SGGS College of Engineering and Technology, Vishnupuri, Nanded from 13th –22nd , December, 1998.
12. Worked as a resource faculty in three weeks ISTE STTP course on "System Engineering Techniques and Applications" organised by SGGS College of Engineering and Technology, Nanded during 18th June 2000 – 28^{h} June 2000.
13. Worked as a resource faculty in three weeks ISTE STTP course on "Programming in C and C++" organized by SGGS College of Engineering and Technology, Nanded during 29th June 2000 – 19th July 2000.
14. Worked as a resource faculty in three weeks ISTE STTP course on "Computer Applications in Systems Engineering", organized by SGGS College of Engineering and Technology, Nanded during 21 May to 3 June 2001.
15. Worked as a resource faculty in three weeks ISTE/AICTE STTP course on "Digital Control and Robotics", organized by Department of Instrumentation, Government College of Engineering, Pune, during 27 May to 7 June 2002.

List of ISTE/QIP/Short term courses attended: (ISTE: Indian Society for Technical Education, QIP: Quality Improvement Programme): (IIT-10, Industry-04, Others-20)

Sr. No.	Institution	Title	Period	Duration
1	I. I. T. Delhi	Power System Operation and Control	June, 1-20, 1987.	3 Weeks
2	N. I. E. Mysore	Recent Trends in Digital Communication	30 Sep. – 14 Oct., 1988.	2 Weeks
3	M. M. M. Gorakhpur	Microprocessor Instrumentation	16 -30 Dec., 1988.	2 Weeks
4	I. I. T. Kharagpur	Robotic Systems: Design and Application	21 – 26 Aug., 1989.	1 Week

5	T. T. T. I. Bhopal	Script Writing for Instructional Video Programmes	April 22-26, 1991.	1 Week
6	IPCL Baroda	Process Instrumentation	May 27 – June 06, 1991.	2 Weeks
7	I. I. T. Bombay	Electronic Measurements and Instrumentation	June 20 – 05 July, 1991.	2 Weeks
8	SGGS, Nanded	Induction Training for Teachers	Feb. 25-28, 1993.	4 Days
9	I. I. T. Bombay	Artificial Neural Network and their Applications	Jan. 24 – 28, 1994.	5 Days
10	CAIR, Banglore	Learning, Control and Hybrid System	Jan. 4-8, 1998.	5 Days
11	SGGS, Nanded	Digital Signal Processing	Mar.16 – 27, 1998.	2 Weeks
12	EDI, Ahmedabad	Business Opportunities Guidance in Information Technology and Software Export	Jan. 4-8, 1999.	5 Days
13	SGGS, Nanded	Digital Signal and Image Processing	June 5-17, 2000	2 Weeks
14	Bit Mapper Pune	Certificate Course in VLSI Design	July 9-15, 2001	1 Week
15	MGM, Nanded	Mobilization of Financial Resources in Technical Institutes by Industry-Institute – Interaction	Jan. 7 – 18, 2002	2 Weeks
16	IIT, Bombay	Advanced Topics in Linear Systems Theory	May 13- 24, 2002.	2 Weeks
17.	IIT, Bombay	ICT for Information Management in S&T Institutions	May 16-20, 2005	1 Week
18	Analogic Technologies, Pune	Hybrid DCS (FBD &SFC) Programming and Troubleshooting	October 17-22, 2005.	1 Week
19	Administrative Staff College of India, Hyderabad	Institutional Capacity Building for the Future	Dec., 26-30, 2005	1 Week
20	SSGMCE, Shegaon	ARM Processor	Aug. 25-26, 2006	2 Days
21	SGGSIE&T, Nanded	Tanner Tools Pro. (A Complete VLSI Design System)	24-25 Sep, 2007	2 Days
22	YCC, Nagpur	Recent Trends in Software Applications to Electrical Engineering	October 16-20, 2007	1 Week
23	WCE, Sangali	Opportunities in NRB-DRDO Research Projects	2 November, 2007	1 Day
24	IIT, Roorkee	Digital Signal and Image Processing	Dec.10-14, 2007	1 Week
25	PDVVP, Nagar	Sliding Mode Control and Applications	29-30 January, 2008	2 Days
26	SGGSIE&T, Nanded	Fundamentals of FPGA and DSP Design Flow	18-21 February, 2008	1 Week
27	Indo-US Collaboration for Engg. (IUCEE) at InfoSys, Mysore	Hands-on Engineering using LabVIEW	July 14-18, 2008	1 Week

28	IIT, Bombay	2nd INUP workshop on Nanofabrication Technologies	30-31 May, 2009	2 Days
29	IIT, Bombay	Variable structure Control and Sliding Mode Control: Principles, Theory, and Applications	21-25 January, 2013	One Week
30	DTE, Mumbai and COE, Pune	Best Practices in Curriculum Development for Instrumentation Engineering	8 August, 2014	1 Day
31	Rutgers University, USA, at Lavasa India	The Certificate Program in Training Skills	September, 2014	4 Days
32	IIT, Kharagpur	Control Systems	02-12 December, 2014	2 Weeks
33	SGGSIE&T, Nanded	Biomedical Signal Processing	30 March-03 April, 2015	One Week, TEQIP
34	SGGSIE&T, Nanded	Computer Vision and Pattern Recognition	13 -23 July, 2016	Two Weeks, TEQIP

Teaching Experience: (During Last Three years)

Undergraduate Level	Postgraduate Level
• Feedback Control System • Control System Design • Digital Signal Processing • Process Control and Instrumentation	• Modern Control Theory • Computer Process Control • Fuzzy Based Control Systems

Conferences Attended (Few are mentioned below)**:**

1. National Conference on Real Time Systems held at SGSITS, Indore, India, 23-24 Feb. 1991.
2. Nineteenth National Systems Conference, Coimbatore, 14-16 Dec., 1995.
3. **European Control Conference ECC99 held at Karlsruhe, Germany,** during 31 Aug. – 03 Sep. 1999. (International Conference)
4. IEEE International Conference on Industrial Technology, ICIT 2000 held at Goa, India during 18-22 Jan. 2000. (International Conference)
5. **European Control Conference ECC 2003 held at University of Cambridge, UK**, during 01 Sep. – 04 Sep. 2003. (International Conference)
6. International Conference on "Instrumentation and Control" held at College of Engineering, Pune during, December, 2004.
7. National Conference on "Signal Processing, Communication and Control, SPCCN-2005" held at VIT, Pune during 1-4 July, 2005.
8. IEEE International Conference on Industrial Technology, ICIT 2006 held at Renaissance Mumbai Hotel and Convention Center, Mumbai, India, December 15-17, 2006
9. National Conference on Signal Processing and Automation held at D. Y. Patil Institute of Engineering and Technology, Pune, 6-8 September, 2007
10. International Conference on Sensors, Signal Processing, Communication, Control and Instrumentation (SSPCCIN), VIT, Pune, India, January 3-5, 2008.
11. National Conference on "Advances in Instrumentation, Signal Processing and Communication" AISPC-2009 at NDMVP's College of Engineering, Nashik, 23-24 January, 2009.

12. 12th International IFAC and IEEE Workshop on Variable Structure Systems, VSS-2012, IIT, Bombay, January 12-14, 2012
13. National Conference on Instrumentation, Control, and Signal Processing (ICSP-2013)", SGGSIE&T, Nanded, July, 2013.
14. National Conference on TEQIP-II: Best Policies and Practices", SGGSIE&T, Nanded, January, 2014.
15. Indian Control Conference (ICC) 2016 held at IIT Hyderabad and Mahindra Ecole Centrale, Hyderabad, 2016.

Contribution to Teaching/ Academic Environment/ Institutional Corporate Life:

ADMINISTRATIVE EXPERIENCE:

1. **Head of Instrumentation Engineering Department from March 2009 – 01 July, 2012.** Responsible for overall development of the department including teaching-learning, administration, Research and Development, Examination and student assessment, Personality Development of the students, and extension Services.
2. **Dean (R&D) since Feb. 2005-Feb. 2009**, was responsible for coordination of Research and Development activity in the institute. Information Dissemination about various funding agencies, coordination of Research proposal preparation, consultancy activities, MoU with foreign universities lab, industry, and Digital library etc.
3. Worked on committee of AICTE at National Level for granting permission to new Engineering Colleges.
4. TEQIP, NIPMU Member, actively involved in preparation of TEQIP-I and TEQIP-II proposals.
5. Chairman Networking Cell, R&D Cell and III Cell of TEQIP-I.
6. Chairman of Library Committee since 2003-2009. Was responsible for purchases of the books and journals in the library, preparation of the proposals for library and solution of the complaints of the students, Creation of on line access to E-journal, and learning resources.
7. Preparation of NBA, DST, AICTE proposals for the department.
8. Coordinator for Departmental procurement, Library purchase under TEQIP-I.
9. Coordinator for curriculum design since last ten years
10. NBA Coordinator for the department of Instrumentation (for NBA in 2003 and 2007)
11. Preparation of proposals for additional intake in Instrumentation, Centre for Excellence etc.
12. Preparation of proposals for Japan aid on "Development of Centre for Systems and Control for Computer Process Control", was Submitted to DIIC, Mumbai.
13. Preparation of proposals for German aid on "Center for Excellence in Instrumentation and Control for Industrial Automation", Was Submitted to DIIC, Mumbai.
14. Acted as Chairman, M. E. (Instrumentation) Admission Committee for two years 1998-2000.
15. Prepared Syllabus of undergraduate and postgraduate course in Instrumentation.
16. Chairman, Computer Development Cell Since July 2001 to 2004 (responsible for conducting computer courses for local community through franchise and conduction of their examination, consultancy generated Rs. 10000/-)
17. Member of Campus development and planning committee. (1998-2004)
18. Member of Store purchase committee, time-table committee etc.
19. Member, Local Project Evaluation Committee (for AICTE funded projects)
20. Faculty Advisor, ISTE student chapter (2000-2003)
21. Was in charge Training and Placement Officer for one year 1990-91
22. Joint-Chairman for first year admission at Marathwada regional level for the year 2002-2003

University Recognition and Related Work:

- Member, Coordination Committee for Faculty of Engineering and Technology, SRTMU, Nanded (upto August 2017).

- Chairman, Ad-Hoc Board of Studies in Electronics, Electrical, and Instrumentation Engineering, SRTM, University, Nanded (November 2012-October 2014).
- Recognized research guide of Swami Ramanand Teerth Marathwada University, Nanded. (Since 2001)
- Recognized postgraduate teacher of Dr. B. A. Ambedkar Marathwada University Aurangabad. and Swami Ramanand Teerth Marathwada University, Nanded. (Since 1991)
- Ph. D. Thesis referee for IIT, Bombay, NIT Jalandhar, University of Pune, BAMU, Aurangabad, SGB Amravati University, RSTM, Nagpur, University, Manipal University.
- Recognized research guide of North Maharashtra University, Jalgaon.
- Member and RRC Member, Board of Studies in Instrumentation at Swami Ramanand Teerth Marathwada University, Nanded. (2005-2012)
- Chairman, Board of Studies in Instrumentation at Swami Ramanand Teerth Marathwada University, Nanded. (during 2002-2004)
- Member, Board of University Teachers and Research in Instrumentation at Swami Ramanand Teerth Marathwada University, Nanded. (during 2002-2004)
- Member, Board of Research Recognition Committee in Instrumentation at Swami Ramanand Teerth Marathwada University, Nanded. (during 2002-2004)
- Member, Board of Studies in Instrumentation at Dr. B. A. Ambedkar Marathwada University Aurangabad. (2000-2005 and 2006-2008)
- RRC Member, Board of Studies in Instrumentation and Control, University of Pune.
- RRC Member, Board of Electronics Engineering, Shivaji University, Kolhapur.
- RRC Member, Board of Electronics Engineering, Solapur University, Solapur.
- Member, Board of Studies in Instrumentation at North Maharashtra University Jalgaon.
- RRC Member, Board of Instrumentation and Electrical Engineering at North Maharashtra University Jalgaon.
- Member, Board of Studies in Instrumentation and Electronics, JNTU, Anantpur.
- Recognized postgraduate teacher of SRTM University, Nanded.
- Worked on Several other committees of SRTMU, Nanded and DTE office, Mumbai (CAS, Starting of New Engineering Colleges etc.)
- Expert in Several Engineering Colleges in the state of Maharashtra for selection of post of Lectures, Assistant Professors, Professors and Principles.
- Expert for Academic Audit for Engineering College under SRTMU, Nanded.

Laboratory and Infrastructure development:

1. Development of Computer Laboratory and working as computer laboratory in-charge. I was responsible for day-to-day software/hardware maintenance of computers, purchases related to computers, satisfactory working of Internet in the department.
2. Member of Committee for Development of Institute Wide Computer Networking (Associated with planning and installation of the institute wide computer network)
3. Establishment of postgraduate laboratory in the Department through AICTE R&D project on "Design and Implementation of Hierarchical Genetic Algorithm based Fuzzy Logic Controller" sanctioned by All India Council for Technical Education (AICTE), New Delhi.
4. Establishment of Postgraduate Laboratory Advanced Control and Computational Laboratory through DST FIST funds.
5. Modernization of Process Control, Analog and Digital Laboratory, PLC, DCS and SCADA Laboratory through TEQIP-I funds.

Extension and Field Outreach Activities:

- Programme Officer, National Service Scheme Unit, SGGS College of Engineering and Technology, Nanded since December 1999 to 31 July 2005. Responsible for organizing national service programme, blood donation camps, tree plantation, adult education, awareness about AIDS and health programme etc. The college has won trophy in inter collegiate blood donation competition for three years consecutively. Two special ten days NSS camp on the

theme "Youth for Greenery" and "Youth for Water Conservation" was organized during 1999-2005. This was the first camp ever conducted by an Engineering college in Marathwada region.

References:

1. Prof. Dr. B. Bandyopadhyay,
   Professor in Systems and Control Engineering,
   Indian Institute of Technology, Bombay,
   Powai, Mumbai-400076 (Maharashtra)
   Ph: (022)-25767889 (Office), Cell: 09820102474; Fax: 022-2572005
   E-mail: bijnan@sc.iitb.ac.in

2. Prof. Dr. S. D. Agashe
   Professor Emeritus
   Department of Electrical Engineering,
   Indian Institute of Technology, Bombay,
   Powai, Mumbai-400076 (Maharashtra)
   E-mail: eesdaia@ee.iitb.ac.in
   Ph: (022)-2576741 (Office), 022-25701259 (Resi)

I declare that all the particulars given in this application are true to the best of my knowledge and belief and I have not willfully supressed any material fact.

26 June, 2019   **Balasaheb M. Patre**