

Prof. (Dr.) Gajanan M. Malwatkar, M. E., PhD

Principal @Govt. College of Engineering Jalgaon (An Autonomous Institute of Government of Maharashtra) (from 17/09/2021)

TEQIP-III Coordinator@Govt. CoEJ(An Autonomous Institute of Government of Maharashtra), The World Bank and Ministry of Education (MoE) initiatives (formerly, The Ministry of Human Resource Development-MHRD)

Head(2019-2021) & Associate Professor, Instrumentation Engineering Department, Dean(Industry-Institute-Interaction),

Training and Placement Officer (Addl Charge:2017-2021)

@Government College of Engineering, Jalgaon-425002.

Chairman(2021-), Board of Studies, Electrical and Instrumentation Engineering, KBC North Maharashtra University (State University), Jalgaon-Maharashtra

Member (2018-), Board of Studies, Electrical and Instrumentation Engineering, KBC North Maharashtra University (State University), Jalgaon

Chairman, Board of Studies, Instrumentation Engineering, Government College of Engineering Jalgaon (July 2019-21)

Member, Board of Studies, Instrumentation Engineering, Government College of Engineering Jalgaon(2016-2019)

Member,, Board of Studies, Instrumentation Engineering, Vishwakarma Institute of Technology(Unaided Private Autonomous Institute), Pune(2008-2012)

Professor-University Approved, Savitribai Phule Pune University (formerly University of Pune), Pune affiliated institute(Feb. 2012-Aug.2016).

Member-BoS and Member/Chairman of various academic, Local and University level committees at Savitribai Phule Pune University (formerly University of Pune), and affiliated institutes(2007-2016)^a.

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^aupdated on March 6, 2022

Educational Qualification

- PhD : 13th July 2011
Topic: Design of PID Controllers for Improved Performance of Higher Order Systems.
- M. E.(2004) Instrumentation Engineering(Specialization in Computerized Control), from S.G.G.S.I.E & T.(An Autonomous Institute of Government of Maharashtra) Vishnupuri, Nanded, SRT Marathwada University Nanded, 2004.
- B. E. (2000) Instrumentation Engineering, from Government College of Engineering, Chandrapur, RSTM Nagpur University (*formerly Nagpur University*), Nagpur, 2000.
- *12th(HSC) with 73.33 % from Dnyanopasak College of Arts, Commerce and Science (Govt. aided institute), Jintur-421509, Dist. Parbhani, Maharashtra.*
- *10th(SSC) with 77.28% from Zilha Parishad Primary and Madyamik Shala(ZP primary and higher medium School), Adgaon (K), Tq. Jintur, Dist. Parbhani, Maharashtra.*

Academic Experience:

¹ Post PhD experience : 11.5 Years(on March 6, 2022).

- PhD Guiding/Guided:06
- Post PhD Publications in Reputed/peer reviewed Journal:12+ (Elsevier and Springer) plus other publications in conferences and Journals (Pl. refer Annexure-Publications)

PhD Guide Recognition

- Savitribai Phule Pune University from Year 2011.
- KL University, Vijayawada, AP.
- Department of Technology, Savitribai Phule Pune University from Year 2014.
- KBC North Maharashtra University Jalgaon from Year 2017

1. Teaching: 22 Yrs (At UG & PG level),

- Currently working in Government College of Engineering Jalgaon from 19th August 2016 to till date as Associate Professor in Instrumentation Engineering. Also looking functioning of Head of Department, in addition, to handling challenging function of **Training and Placement Officer.**
- Worked with ZCOER, Pune, an institute affiliated to SPPU Pune as Professor (University approved) from 9th Feb 2012 to 18th Aug 2016

¹Information updated on March 6, 2022

- Was working with VIT Pune (An autonomous private institute in Pune) as Assistant Professor(Vth Pay nomenclature) from 07/07/2007 to 08/02/2012 and Lecturer before 07/07/2007 in same institute (Approx. 8.5 Years experiance).

Summary of the Teaching Experience as :

Institute	Designation	From-To
Government CoE* Jalgaon (An Autonomous Institute of GoM)	Associate Professor (Full Time-permanent)	19/08/2016-till date –
Zeal CoE, Pune (Under University of Pune(SPPU), Pune)	Professor (Regular-Full time)	09/02/2012-18/08/2016
VIT, Pune*\$ (Autonomous institute)	Lecture Lecturer(Vth Pay)	4/1/2004-31/5/2004 -/-/2006-6/7/2007
-//-	Asst. Prof(Vth Pay)	7/7/7-8/2/2012
IIT Bombay, Mumbai	Proj. Asst.	2004-2005

*CoE = College of Engineering, *\$ An autonomous institute in private

- In addition to above, there were regular/consolidated working experiences in Indian Institute of Technology Bombay (IITB), Mumbai, Dr. Babasaheb Ambedkar Technology University(BATU), Lonere-Raigaid and other organizations etc.

2. Industrial: 2.5 Yrs,

3. Research & Development: 0.75 Yr at IIT Bombay, Mumbai.

Total Experience : 21 Years

Publications(Journal/Conference)	50+(Ref. Annex P1)
Course Attended	20+(Ref. Annex CA1)
Course Organized	20+(Ref. Annex CO1)
Resource person	25+ STTP/Workshops including TEQIP program(Ref. Annex. P1)
Area of talk	Applications of MATLAB/SCILAB/LABVIEW/LATEX (Ref. Annex. P2)
-	Control/Sliding mode/Dynamics and Modeling(Ref. Annex. P3)
Area of Expertise	Control, PID, SMC, Signal & Systems, Signal Processing,(Ref. Annex. P2)
-	Modeling, Identification, Measurement, Process, RT applications
Past Organization	Dr. BATU Lonere, IIT Bombay, VIT Pune, ZCOER Pune
-	-

Administrative/Academic Administrative Experiences: ²

²Information updated on 8th July 2021

- **Chairman: Board of Studies (Electrical & Instrumentation Engineering), KBC North Maharashtra University (State University-Govt. of Maharashtra) Jalgaon** from 2021 to till date.

Remarkable Contribution/Activities: An Emphasis are given on the contents of the syllabus. Also mentor of some of the university related teachers. *lagging/weakness:* At this stage the expected outcome yet to met.

- **Board of Studies (Electrical & Instrumentation Engineering)-Member-Hon. Vice Chancellor's nominee, KBC North Maharashtra University (State University-Govt. of Maharashtra) Jalgaon** from 2018 to 2021.

Remarkable Contribution/Activities: An Emphasis are given on quality of teaching and assessment. Also mentor of some of the university related teachers. *lagging/weakness:* At this stage. the progress is yet to analysis.

- **Chairman, Board of Studies (BoS) (Instrumentation Engineering), Govt. College of Engineering (An Autonomous Institute of Government of Maharashtra) Jalgaon** from Aug. 2019 to Oct. 2021

Functions/Contributions: Overall development and up-gradation of the syllabus. Mentor to the young faculty and staff for their best possible outputs in terms of maintaining laboratory and teaching/instructions. The syllabi are upgraded as per requirement of the industry(around 20 %) to get benefit to the students of the department.

Lagging/weakness: Research components are missing, improvement is expected in 2-3 years.

- **Head of Department(Instrumentation Engineering):** From August 2019 to till date
Function/Contribution: Development of Process Instrumentation Laboratory under TEQIP-III. Major contributions involves to start & establish PhD centre and PG(M. Tech) programme in the department. Department has accreditation from NBA for 3 Years (in 2018-19 for 2018-2021).

Lagging/weakness: Research activities are initiated, results may expected in upcoming years.

- **Dean(Industry Institute Interaction):** From July 2017 to till date

Contribution/Functions: It is one of the most important and remarkable activities I(with team members) have handled/handling in the institute from 2017. The main contribution includes the interaction with industries(In my current tenure we members have developed very good professional relations with reputed industries including TCS, Wipro, TechMahindra, Toyo India, Honeywell, Jain irrigation, Legrand, Johnson & Control, Amazon, AV anti-virus, Tata motors, Chassis International(Kalyani Brakes), Bosch, Supreme pipes.....). This directly or indirectly helped to improve industry training/intern-ship of the institute students

- **Training & Placement Officer(addl charge):** From July 2017 to till date.

Achievement: In campus, every year 100 plus students are placed after taking T& P charge. This is in addition to boosting training and placement facilities from insignificant

to significant (possible best) with minimal requirements, industry internship and free industry training to more than 200 hundred students per year. **Weakness/lagging:** The department of T&P yet to establish as there were merely existence even-after two decades of establishment of institute. The T&P cell has less contributions for IRG generations or sponsored projects from industry.

- **Controller of Examinations:** Government College of Engineering (Autonomous Institute) Jalgaon from 24th August 2016 to 31st August 2017.

Contribution/Functions: As per norms, but it was smooth, no any major problem and no weakness found

Minor Responsibilities:

- **Coordinator** of International Conference on “ Recent trends in Engineering and Science”, held at Government College of Engineering, Jalgaon during 20-21 Jan, 2017. The conference was under Technical Education Quality Improvement Programme (TEQIP)-II.
- **Coordinator** of various 20+ STTP/Workshop/Training programs conducted at Government College of Engineering Under TEQIP-II & TEQIP-III.
- **Coordinator** for NBA and AICTE, DTE, NIRF related correspondence in Government College of Engineering (Autonomous Institute) From 24th Aug. 2016 to till date.
- **Head of Department (Electronics & Telecommunication Engineering)** from 15th June 2012 to 31st December 2015 in Zeal Edu. Society’s college of Engg. & Research, Pune-41. In the department total staff strength (Teaching/non-teaching) was around 45, students: More than 500 (UG, PG, PhD). Established first PG and PhD centre in institute. **Remark of then Hon. VC: Dr. Arun Adsool:** Best initiation for the development of young-private institute.
- Dean-Academics from June-2012 to June-2014 in Zeal (Dnyanganga) college of Engg. & Research, Pune.
Contributions:Two University topper in University(SPPU). **Weakness:** Input Admissions were of low quality(less marks in 12th, JEE/NEET/CET-MH score etc)
- NBA/NAAC Co-ordinator at college level in Zeal College of Engineering and Research, Narhe, Pune. Post resignation, an institute accredited with grade 'A' from NAAC.
- Convener of National level one week STTP on Signal and Image processing: Theory, Simulation and Applications 15-20 April 2013.
- Co-ordinator for work shop on Control Systems under the aegies of Board of Studies (Electronics), University of Pune. Dec 2013.

- PG admission coordinator at institute level in year 2010 and 2011 at VIT Pune,
- PG coordinator of Instrumentation Engineering Department from year 2008 to 2011 at Vishwakarma Inst. of Tech. Pune
- Organizing committee member of International conference- SPCCIN-2008,(3rd- 5th January 2008)
- Organizing committee member of National conference- SPCC-2005.
- Library Committee member at institute level from Year 2007 to 2011 at Vishwakarma Inst. of Tech. Pune. Major contribution to change the face of library under TEQIP-I(In private sector under visionary leader- H. K. Abhyakar).

Personnel Details

- P503, Hubtown(Akruti City) Country-woods, Tilekar nagar, Katraj-Kondhava Rd. Pune-411048.
- Age: 44 Yrs.,
- Place of birth: Parbhani- Maharashtra,
- Languages Speak/Read/Write: English, Marathi & Hindi

Specialization and Research Interest

- Process Dynamics, modelling and Identification, and Control,
- Sliding mode Control for Electromechanical Systems, Chemical processes and Engineering Applications.
- Real time experimentation of Controllers/Modeling/identification.
- Linear and Non-linear Control Systems.
- Signal and systems.
- Advanced control theory and application
- Feedback/automatic control systems

Expert talks in Workshop/conference More than 30 talks are delivered in various workshops/conferences/faculty development program and Expert lectures.

List of Publications

- **International Journal(Selected Papers Only)**

1. Ishwar S. Jadhav, and **Gajanan M. Malwatkar**. "Optimal and Higher Order Sliding Mode Control for Systems with Disturbance Rejection." In Applied Information Processing Systems. pp. 563-574. Springer, Singapore, 2022.

2. S. R. Shiledar, **G. M. Malwatkar**, I. S. Jadhav, and G. V. Lakhekar. Design of Discrete Sliding Mode Controller for Higher Order System. *Reliability: Theory & Applications* 16, no. SI 1 (60) pp 90-97, 2021.
3. SJ Gambhire, KS Sri Kanth, **GM Malwatkar**, PS Londhe, Robust fast finite-time sliding mode control for industrial robot manipulators, *International Journal of Dynamics and Control*, Vol. 7, Issue 2, pages 607-618, 2019.
4. V. D. Hajare, B. M. Patre, A. A. Khandekar, **G. M. Malwatkar**, "Decentralized PID controller design for TITO processes with experimental validation", *International Journal of Dynamics and Control*, DOI 10.1007/s404350160252z Year:2016. (Paper available online at www.springer.com)
5. A. A. Khandekar, **G. M. Malwatkar** and B. M. Patre, "Discrete sliding mode control for robust tracking of higher order delay time systems with experimental application", *ISA Transactions*, Volume 52, Issue 1, 2013, Pages 36-44. (Paper available online at www.sciencedirect.com)
6. Behrooz K. Sarabi, D. K. Maghade, **G. M. Malwatkar**, "Free interactor matrix method for control performance assessment of multi-variate systems", *International Journal of Instrumentation, Control and Automation*, 1 (2-3), 2012, Pages 40-45. (Paper available online at www.interscience.in)
7. Poonam Shelke, **G. M. Malwatkar**, "An energy efficient air conditioner system without compressor: applications of embedded system", *International Journal of Innovative Science, Engineering & Technology*, 1 (5), 2014, Pages 339-343. (Paper available online at www.ijiset.com)
8. **G. M. Malwatkar** and L. M. Waghmare, "Design of centralized PI/PID controllers for processes with parameter uncertainty and interactions", *International Systems Science Journal*, Volume 36, No. 2, pp. 39-50, 2010.
9. **G. M. Malwatkar**, S. H. Sonawane and L. M. Waghmare, "Tuning PID controllers for higher-order oscillatory systems with improved performance", *ISA Transactions*, 48, pp. 347-353, 2009. (Paper available online at www.sciencedirect.com)
10. Farzam Shahni and **G. M. Malwatkar**, Assessment minimum output variance with PID controllers, *Journal of Process Control*, Volume 21, Issue 4, April 2011, pp. 678-681. (Paper available online at www.sciencedirect.com)
11. Farzam Shahni and **G. M. Malwatkar**, Minimization of output variance with PID controllers, *ACEEE International Journal on Control System and Instrumentation*, 1(1), July 2010. (Available online at www.searchdl.org).
12. **G. M. Malwatkar** and L. M. Waghmare, "Design of controllers for higher order plus delay time processes: A Practical solution", *International journal on computer applications*, 21(7), 33-38, 2010. (Available on-line at www.ijcaonline.org)
13. **G. M. Malwatkar**, Aniket Khandekar and Archana Chaudhari, Performance enhancement with disturbance rejection of integrating plus delay time processes by PI/PID controllers. *Journal of Process Control*(Communicated)

- International Conferences(Selected Papers Only)

1. Aniket Khandekar, **Gajanan Malwatkar** and Balasaheb Patre, Discrete sliding mode control with FIR output feedback sliding surface , Annual IEEE India Conference (INDICON), 2012, page(s) 030-034. (available on-line at *IEEE Xplore*).
2. Aniket Khandekar, **Gajanan Malwatkar**, Subodh Kumbhar and Balasaheb Patre, Continuous and discrete sliding mode control for systems with parametric uncertainty using delay-ahead prediction, The 12th International Workshop on Variable Structure Systems, January 12-14, 2012, IITBombay, Mumbai, India. (available on-line at *IEEE Xplore*).
3. Patil S.S.; **Malwatkar G.M.**; Kulkarni, J.V., “Performance enhancement in disturbance rejection by PID controller in series with low pass filter ”, IEEE International Conference on Computational Intelligence & Computing Research (ICCIC), Digital Object Identifier: 10.1109/ICCIC.2012.6510263, 2012 (Paper Available online at *IEEE Xplore*)
4. Sarabi, B.K.; Maghade, D.K.; **Malwatkar G.M.**, “An empirical data driven based control loop performance assessment of multi-variate systems ”, Annual IEEE India Conference (INDICON), Digital Object Identifier: 10.1109/INDCON.2012.6420591 Publication Year: 2012 , PP. 070 - 074 (Paper Available online at *IEEE Xplore*)
5. **G. M. Malwatkar**, Aniket Khandekar and Archana Chaudhari, Tuning PI controllers for integrating-non minimum phase plus delay time processes, IEEE 3rd International Conference on Electronics Computer Technology (ICECT 2011), April 8-10, 2011, Kanyakumari, India. (available on-line at *IEEE Xplore*).
6. **G. M. Malwatkar**, Aniket Khandekar and Satish Nikam, PID Controllers for Higher Order Systems based on Maximum Sensitivity Function, IEEE 3rd International Conference on Electronics Computer Technology (ICECT 2011), April 8-10, 2011, Kanyakumari, India. (available on-line at *IEEE Xplore*).
7. L. M. Waghmare and **G. M. Malwatkar** , Design of PID Controllers for Improved Performance of Higher Order Systems, UKACC International Conference on Control, Coventry, UK, 7-10 September 2010.
8. **G. M. Malwatkar** and P. T. Bhosale, Decentralized controllers design for multi-variable interactive processes, International Conference on Electrical Power and Energy Systems (ICEPES-2010), NIT Bhopal, 26-28 Aug. 2010.
9. Farzam Shahni and **G. M. Malwatkar** , Minimization of output variance with PID controllers, Proc. of International conference on Control, Communication and Power Engineering, Chennai-India, 2010 (Available online at www.searchdl.org).
10. **G. M. Malwatkar** and L. M. Waghmare, “Design of controllers for delay time processes with desired closed-loop response specifications” , *IEEE* International conference-Indicon 2009, DAIIT Gandhinagar, 18 - 20 December 2009.(available on-line at *IEEE Xplore*).

11. **G. M. Malwatkar**, S. D. Nikam, P. T. Bhosale and L. M. Waghmare, "PID Controllers Tuning for Improved Performance of Unstable Processes", In Proceedings of the *IEEE* International conference on Advances in Computing, Control, & Telecommunication Technologies, ACT '09, Kerla, 28 - 29 December 2009. pp. 624-628. (available at *IEEE Xplore*)
 12. **G. M. Malwatkar**, A. A. Khandekar, V. G. Asutkar, L. M. Waghmare, "Design of PI/PID controller: Interaction Measure Approach", in Proceedings of the *IEEE* international conference on Industrial and information systems, IIT Kharagpur, India, December 8-10, 2008. pp. 432 (1-6). (available at *IEEE Xplore*)
 13. **G. M. Malwatkar**, D. K. Maghade, A. A. Khandekar, S. H. Sonawane, "Design of PI/PID Controllers for Multivariable Systems", in Proceedings of the International conference on Emerging Technologies and Application in Engineering, Technology and Sciences, Saurashtra University Rajkot, India, 2008. pp. 727-732.
 14. **G. M. Malwatkar**, D. K. Maghade, A. A. Khandekar, P. K. Ajmera, J. A. Gaikwad and S. H. Sonawane, "Interaction Analysis and Controller Design for Multivariable Systems", SSPCCIN 2008, Vishwakarma Institute of Technology, Pune, 3 - 5 January 2008.
- National Conference(Selected Papers Only)
 1. **G. M. Malwatkar**, A. A. Khandekar, S. A. Deokar and V. D. Hajare, Frequency Analysis with reduced model Order based PID controllers for Higher Order Systems, National Conference on Instrumentation,, Control and Signal Processing, SGGS Institute of Engineering & Technology, Nanded, July 8-9, 2013.
 2. **G. M. Malwatkar**, A. A. Khandekar and Subodh A. Kumbhar, Design of First Order Discrete Sliding Mode Controller for SOPDT Systems, 34th National System Conference, NIT Surathkal, Karnataka, December 2010.
 3. **G. M. Malwatkar**, "Multivariable PID controller design for Batch reactor", Innovation-2008, Conference for engineering teachers, organized by University of Pune at Sinhgad Institute of Tech, Pune, 2008.
 4. **G. M. Malwatkar** and L. M. Waghmare, "Design of controllers for delay time processes", Innovation-2009, Conference for engineering teachers, organized by University of Pune at Sinhgad Institute of Tech, Pune, December-2009.
 5. **G. M. Malwatkar** and V. G. Asutkar, "System Identification: A State Space Approach Based on Subspace Technique", Proc. of Conference on National Seminar on Physics and Technology of Sensor (NSPTS-10), University of Pune and Vishwakarma Institute of Technology, Pune, 2004.
 6. **G. M. Malwatkar** and V. G. Asutkar, "Identification of Deterministic systems based on Subspace Technique", Proc. of National Conference on Advanced Control and Instrumentation (ACI-2004), St. Joseph's College of Engg. Chennai, India, 2004.

7. **G. M. Malwatkar** and V. G. Asutkar, “A New Method for Rotational Speed Measurement”, Proc. of Conference on National Seminar on Physics and Technology of Sensor (NSPTS-10), University of Pune and Vishwakarma Institute of Technology, Pune, 2004.
8. **G. M. Malwatkar**, “A role of Technical Teacher and Industry-Institute Interaction”, ISTE, New Delhi sponsored sixth annual convection of Maharashtra and Gao section, Dr. Babasaheb Ambedkar Technological University, Lonere-Raigad, Maharashtra, 2004.

List of STTP/Workshop/FDP attended

- One week

1. ICT Impact on Productivity of Government Sector, 19-23 September 2016, Venue: Panjim, Goa, Organized By National Productivity Council, New Delhi.
2. Total Quality Management and Six Sigma, 6-10 October 2016, Under TEQIP-II, Venue and organized by GCOE Jalgaon.
- 3.

Research Projects & achievements

- Worked as Principal investigator for project titled “MODELING, ANALYSIS AND CONTROL OF REACTOR”, funded by University of Pune, Pune, 2008. Completed the research project in year 2011 with 2 International Journal and 2 IEEE conference papers.
- Developed PID CONTROLLERS FOR HIGHER ORDER AND OSCILLATORY SYSTEMS.
- Working on Centralized and decentralized controller for multi-variable systems as well as on achievable performance of PID controllers.
- Working on the development of MICRO-GRAM WEIGHT MEASUREMENT DEVICE.

PhD Thesis, PG Dissertations and UG projects Guidance:

List of PhD students (completed)(Tille date): Nil
 Number of PhD students (Registered): 06

- PG/PhD Thesis/Dissertation Guide:

The list of students who have published research in SCI/Scopus:

1. Farzam Shahni, Assessment of PID parameters with respect to minimum variance, July 2010.
2. Subodh Kumbhar, Simulation studies on continuous and discrete time sliding mode control. August 2011.

3. Satish Nikam, PID Controllers for Higher Order Systems based on Maximum Sensitivity Function, August 2011.
4. Archana Chaudhari, Performance Enhancement With Disturbance Rejection of Integrating Plus Delay Time Processes by PI/PID Controllers, June 2011.
5. Prashant Bhosale, Design of Decentralized PID Controllers, May 2011.
6. Behrooz Kheiri Sarabi, An empirical data driven based control loop performance assessment of multi-variate systems, 2012.
7. Sneha S Patil, Performance enhancement in disturbance rejection by PID controller in series with low pass filter, 2012.
8. Shrikrushna Khedkar, Survey on home automation using Raspberry Pi through GSM, 2016.
9. Pooja Jaiprakash Kulkarni, The graphical security system by using CaRP, 2015.

There are more than 50 students who completed ME. pl ref. Annex. ME-1.

- UG Project Guide: 02 or 03 batch per year(limited)
- Seminar Guide : 05 to 07 students per year(limited)

Subject Taught

- PLC & Automation (B. E. E & TC)
- Control System (M. E. Instrumentation & Control)
- Modern Control Theory (M. E. Instrumentation & Control)
- Modeling and Simulation (M. E. Instrumentation & Control)
- Digital Control (M. E. E& TC)
- Process Identification (M. E. Instrumentation & Control)
- System Identification (B.E. Instrumentation & Control)
- Digital Control (B. E. Instrumentation & Control)
- Advanced Control Systems (B. E. Instrumentation & Control)
- Advanced Control Strategies (B. E. Instrumentation & Control)
- Measurement and Control (T. E. Mechanical)
- Digital Signal processing (T. E. E & TC)
- Signal and Systems (T. E. E & TC)

Course Conducted/Attended updation till 2016, There were 50+ courses are applicable.

- Attended: One week training programme on “ICT Impact on Productivity of Government Sector” Organized by National Productivity Council, Government of India from September 19-23, 2016 at Goa.
- Attended: TEQIP-II sponsored training on “Total Quality Management and Six Sigma”, organized by Govt College of Engineering, Jalgaon from October 6-10, 2016.
- Attended: Skill development workshop on “Virtual Instrumentation using Labview” organized by Govt College of Engineering, Jalgaon from August 27 to 31, 2016.
- Attended: TEQIP-II sponsored training on “Recent Trends in Control Systems, Neural Network & Image Processing”, organized by Govt College of Engineering, Jalgaon from October 14-15, 2016.
- Attended: Indo-US collaborative program on “Hands on Labview using Engineering” during 14th to 18th July 2008 at Infosys Park, Mysore.
- One week course attended on “Participative Teaching Techniques” at Shri guru Gobind Singhaji Institute of Engineering & technology, Nanded-431606, Maharashtra, 2003.
- One Day Workshop on, “Advanced Process Control” at Sinhgad Institute of Technology, Wadgaon, Pune. 2004.
- One Day Workshop on, “Advanced Control Systems and its Application” at NDMVP’s College of Engineering” 2005.
- Conducted six month refresher course on “ Industrial Automation in process control and embedded systems., 2008.
- Conducted one week workshop on “ Industrial Automation”, 2006.

References:

- Prof. Dr. L. M. Waghmare, Ex-Professor/Ex-Director, SGGSI&T, Nanded. Currently Dean(Sci&Tech), SRTMU, Nanded.
- Prof. Dr. B. M. Patre, Professor, Instrumentation Engineering Dept., and Dean (Finance), SGGSI&T Nanded.
- Prof. Dr. Shirish H. Sonawane, Professor & Head, Chemical Engineering Department, NIT Warangal.
- Prof. Dr. S. B. Deosarkar, Professor (Electronics & Telecomm. Engineering), Dr. Babasaheb Ambedkar T. U. Lonere (BATU Lonere)

Place: Jalgaon

Dr. G. M. Malwatkar

Date: March 6, 2022

Refer attached documents for SCI, peer reviewed journals, STTP, FDP attended or conducted etc Or refer institute website(<https://www.gcoej.ac.in>) for details