

### **Present position**

- **Assistant Professor**

### **Contact Details**



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### **Work Experience**

- **Teaching : 18 years**
- **Industrial : 2 years**

### **Personal Profile**

Motivating Professor with innovative Teaching strategies in Learning Process. Inspiring students in achieving academic and Personnel excellence and Committed in Ensuring Academic integrity of the Institution. Mentoring students in their future development

A hard core Electronic profession, having passion for implementing and continuously learning new technologies. Contributing to science journals in publishing articles.

### **Course(s) Taught (Only Titles)**

- Analog Electronics
- Digital Electronics
- Image Processing
- Digital Signal Processing
- Electromagnetic Theory and Applications
- Embedded Systems
- Internet of Things
- Python Programming

### **Field of Specialization/Areas of Interests**

- Embedded Systems
- Internet of Things
- Python Programming
- Embedded C Programming
- Analog and Digital Electronics

## Education

- **Ph.D. – (Electronic Science):** from 2011 to 2019  
**Title of the Thesis:** Investigation of the Impact of Tree Canopy on Air Pollution using Wireless Sensor Network  
**Name of University / Institution:** Savitribai Phule Pune University/ Fergusson College (Autonomous) Pune  
**Year of Award:** 30 March 2019
- **UGC NET Qualified:** 2010
- **Master of Science- (Electronic Science):** 1995  
 University/College: Savitribai Phule Pune University/ Fergusson College (Autonomous) Pune
- **Bachelor of Science- (Electronic Science):** 1992  
 College, University, Place: Savitribai Phule Pune University/ Fergusson College (Autonomous) Pune
- **Bachelor of Science- (Applied Electronics):** 1993  
 College, University, Place: Savitribai Phule Pune University/ Fergusson College (Autonomous) Pune

## Fellowship/Awards/ Certifications/Achievements/Recognitions

- First prize for best product design: Dr. N. G. Patel Prize, National Seminar on Physics and Technology of Sensors **NSPTS-18**, on 6-8<sup>th</sup> March 2014 held at Tuljaram Chaturchand College, Baramati

## Member of College Committees/ Professional Bodies and Others

College Level	Professional Bodies	Others
PG coordinator from 2022	<ul style="list-style-type: none"> <li>• Society of Promotion of Excellence in Electronics Discipline (SPEED) Life member</li> <li>• ISTE Life member</li> </ul>	e.g. BoS member
OBE coordinator		
Placement coordinator		
Admission coordinator for <a href="#">M. Sc</a> Electronic Science from 2021		
Judge and invitee for project competition held in Garware College, Pune		
Judge and invitee for project competition held in Fergusson College (Autonomous), Pune		
KPIT Consultancy Team member		
Hackathon 2022 Team Member		

## Employment History

### 1) Organization : Klapp Heating Tools Pvt Ltd, Pune

**Role** : R & D Engineer

**Duration** : 2 years

<b>Responsibilities</b>	<ul style="list-style-type: none"><li>• Designing of SMPS</li><li>• Development and testing of designed SMPS and installation of product in industry</li></ul>
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### 2) Organization : Deogiri College, Aurangabad

**Role** : Assistant Professor

**Duration** : 4 years

<b>Responsibilities</b>	<ul style="list-style-type: none"><li>• Teaching for BCS students.</li><li>• Practical conduction of BCS students</li><li>• Practical Designing and Implementation</li><li>• Project Guidance</li></ul>
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### 3) Organization : Fergusson College (Autonomous), Pune

**Role** : Assistant Professor

**Duration** : September 2006-till date

<b>Responsibilities</b>	<ul style="list-style-type: none"><li>• Teaching for M. Sc Electronic Science students.</li><li>• Practical conduction of M. Sc Electronic students</li><li>• Practical Designing and Implementation</li><li>• Project Guidance</li><li>• M. Sc Coordinator, Exam Chairman, Admission coordinator, OBE Coordinator</li><li>• Organized various workshops, Guest lectures under DBT (Department of Biotechnology), CPE (College with potential for Excellence) and CE (College of Excellence) scheme for M.Sc Students.</li></ul>
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## Research Projects

Title of the Project	Name of Funding Agency	Amount (Rs)	Duration (Year) (From To)	Type (Minor/Major)	Outcome
Gesture Based Home Automation using Sixth Sense Technology	LIFE PROGRAMME OF UGC- College of Excellence	10,000/	6 months (2019-20)	Minor	Project Completed

## Research Publications in National and International Journals

## **INTERNATIONAL JOURNAL PAPERS**

1. Kalpana. A. Kulkarni, J. V. Khedkar, M. S. Zambare, "Modeling of vegetation effect on atmospheric CO<sub>2</sub> and O<sub>2</sub>", published in International Journal of Advances in Engineering & Technology (IJAET), June 2016, ISSN: 22311963 Vol. 9, Issue 3, pp. 389-395
2. Kalpana A. Kulkarni, Madhukar. S. Zambare, "The Impact Study of Houseplants in Purification of Environment Using Wireless Sensor Network", published in international journal, Wireless Sensor Network (WSN), Scientific Research Publishing, March 31, 2018, ISSN Online: 1945-3086, ISSN Print: 1945-3078, Vol. 10, Issue 3, pg. 59-69.

## **NATIONAL JOURNAL PAPER**

1. K. A. Kulkarni, D. P. Londhe, N. M. Kulkarni, A. D. Shaligram, M. S. Zambare, "Development of an embedded system for monitoring CO<sub>2</sub> and O<sub>2</sub> levels", published in SPEED Journal of Research in Electronics ISSN: 2349-8226, Vol. 1, Issue 1, 2012, pp.
2. K. A. Kulkarni, N. M. Kulkarni, M. S. Zambare, "Measurement of environmental parameters in a closed chamber using Wireless Sensor Node", published in Journal of Instrument Society of India ( ISOI), ISSN: 0970-9983, Vol. 44, 2014, pp. 137- 140.

## **PROCEEDING PAPERS**

1. K. A. Kulkarni, A. D. Shaligram, "Ray tracing Model of the sensor for arbitrarily shaped Random solid Particle Suspension", International Conference on Microwaves and Optoelectronics -ICMO 2007, Dr. B. A. M. U, Aurangabad, India, Dec.17-20, 2007
2. K. A. Kulkarni, A. D. Shaligram, "Exploring J2ME as a programming platform for mobile computing", National Seminar on Current Trends in Information Technology, at S. N. Arts, D. J. Malpani Science College- Sangamner, Maharashtra, on 9-11 Feb. 2008 and published in the proceeding of National Seminar
3. K. A. Kulkarni, Y. S. Khandge, S. P. Khedkar, N. M. Kulkarni, M. S. Zambare, "Designing Multichannel Data Logging System For Monitoring Environmental Parameters", presented paper in National Conference on Sensor Networks and Embedded Systems (NCSNES-2011), at Abasaheb Garware College-Pune, on ( 2-4 Feb. 2011) and published in the proceedings of conference, pp. 60
4. Y. S. Khandge, K. A. Kulkarni, N. M. Kulkarni, M. S. Zambare, "Development of Multi Sensor Board for Wireless Sensor Network", presented paper in National Conference on Sensor Networks and Embedded Systems (NCSNES-2011), at Abasaheb Garware College-Pune, 2-4 Feb. 2011, published in the proceedings of conference, pp. 46

5. K. A. Kulkarni, M. S. Zambare "Use of Gas Sensors and wireless sensor network for the environmental parameter monitoring: Current trends and challenges", presented paper in International Conference on Current Trends and Challenges in Management, Engineering, Computer Application and Technology (ICCTCMECAT), Deogiri College of Engineering, Aurangabad, 23- 25 March 2012, Published in Conference Proceeding, ISSN 2249-7455 Vol.1, Issue 6(V) – March 2012, pg. 95-98
6. K. A. Kulkarni, D. P. Londhe, N. M. Kulkarni, A. D. Shaligram, M. S. Zambare, "Development of an embedded system for monitoring CO<sub>2</sub> and O<sub>2</sub> levels", presented paper in National Conference (NCRIGE- 2013) at Amravati, Maharashtra (8-9 February 2013), published in the proceedings of conference, ISBN: 978-81-922256-9-2, pp. 21
7. D. P. Londhe, K. A. Kulkarni, N. M. Kulkarni, M. S. Zambare, "Performance Evaluation of Force Sensing Resistor (FSR) For Plantar Pressure Measurement", presented paper in National Conference (NCRIGE- 2013) at Amravati, Maharashtra-8-9 February 2013, published in the proceedings of conference, ISBN: 978-81-922256-9-2, pp. 34
8. K. A. Kulkarni, N. M. Kulkarni, M. S. Zambare, "Measurement of environmental parameters in a closed chamber using Wireless Sensor Node", presented paper in National Symposium on Instrumentation (NSI-38) organized by B. V. B. College of Engineering & Technology, Hubli, Karnataka , 24- 26 October 2013, pp. 83.
9. K. A. Kulkarni, M. S. Zambare, "Monitoring the environmental parameters in a closed chamber for the analysis of Air pollution for green and clean environment", presented paper in 1st National Conference on Energy and Environment (NC2E-2014) organized by School of Energy Studies and Department of Environmental Science, University of Pune, Maharashtra, 20- 22 February 2014, published in the proceedings of conference, ISBN: 978-93-83993-10-9, pp. 223- 224
10. K. A. Kulkarni, A. A. Deshpande, M. K. Mule, M. S. Zambare, "Development of Embedded System for measuring CO and O<sub>2</sub> concentrations in rooms with Gas Geyser", presented paper in 18th National Seminar On Physics and Technology of Sensors (NSPTS- 18) organized by Tuljaram Chaturchand College, Baramati, 6- 8 March 2014, published in the proceedings of conference, pp. 69-71. (First Prize for Best Product Presentation in Conference)
11. K. A. Kulkarni, J. V. Khedkar, S. P. Khedkar, M. S. Zambare, A. D Shaligram "Mathematical modeling of variation of CO<sub>2</sub> and O<sub>2</sub> contents in a closed chamber due to vegetation", National conference on Advances in Electronics and its interdisciplinary Application (NCAEIA-2014) on 19-20th September 2014, ISBN: 978-93-5174-7833, pp-380
12. K. A. Kulkarni, N. M. Kulkarni, M. S. Zambare. "Sensor node development for the analysis of plant photosynthesis to make green and clean environment" presented paper in National conference on Advanced Materials and Applications (NCAMA-2016) organized by Physics Department, Fergusson

College. Pune Maharashtra, 4-5 March 2016, published in the proceedings of the conference, ISBN: 978-93-5235-011-7, pp. 62-64.

13. Puloma Singh, Shweta Dhavale, K. A. Kulkarni, Panchsheela Kamble, “Wi-fi based Adventures Sports health monitoring system” International journal of Research and Analytical reviews (IJRAR), E-ISSN 2348-1269, P- ISSN 2349-5138, Volume 06, January 2019
14. Shriharsh S Joshi, Namrata Shedshale and Kalpana Kulkarni, “Smart Home Automation Using Digital Image Processing Technique” paper published in Mazedan Computer Engineering Transactions, Vol. 1, Issue-1, pp-10-14, Year-2020
15. Shriharsh S Joshi , Namrata Shedshale, Kalpana Kulkarni “Gesture Controlled Home Automation By Image Processing Using Matlab” presented paper in - Conference on Engineering Systems Design and Optimization (CESDO-2020), February 27-28, 2020, Paper ID-47
16. Mahesh Lokhande, Kalpana Kulkarni “LED illumination and Data Acquisition with Graphical user interface Using Matlab” presented paper in - Conference on Engineering Systems Design and Optimization (CESDO-2020), February 27-28, 2020, Paper ID-47

#### **Participation in Conferences/Seminars/Symposia/Workshop:**

1. Successfully Completed 60 Hours (6 Weeks) Industrial Training/Internship On “**Iot**” Conducted By Enovate Skill Via Ict Mod, Nitttr Chandigarh Start-up. His/Her Performance In The Training Is Rated High. From 01-06-2020 To 08-07-2020, Certificate Ref..No.: ESKILL/B1/B2/61
2. Three day’s short term course on Electronic Circuits Simulation and PCB Design held on 12-14 June 2020, by Invihub Technosolutions Pvt. Ltd, Bangalore
3. Five day’s online mode workshop on ‘MATLAB based teaching-learning in Mathematics, Science and Engineering’, Organized by Department of Electronics Engineering, Ramrao Adik Institute of Technology, Nerul, Navi Mumbai, on 18<sup>th</sup> to 22<sup>nd</sup> May 2020.
4. Successfully completed the course on ‘MATLAB Onramp’ by MathWork training services, April 2020

5. Two day's international webinar on "Innovative Research Trends in Green Electronics and Allied Technology", Organized by Department of Electronic Science Tuljaram Chaturchand College of Art, Science, and Commerce Baramati, Pune India. Associated with the RUSA, on 2nd and 3rd march 2021.
6. National Level Online Workshop on "Electronic Design Automation (EDA) Tools", organized by Department of Electronic Science and Internal Quality Assurance Cell (IQAC) of Maratha Vidya Prasarak Samaj, Nashik K. K. WAGH ARTS, SCIENCE AND COMMERCE COLLEGE PIMPALGAON (B.) Tal. Niphad, Dist. Nashik, Maharashtra, India, Tuesday, 10th August, 2021.
7. International Webinar on "Futuristic Devices: From Healthcare to Quantum Computing" organized by Department of Electronics, Mahatma Gandhi Shikshan Mandal's Arts, Science and Commerce College Chopda, Dist: Jalgaon, Maharashtra, India. 9th August 2021
8. Five day's online mode workshop on 'Linux OS Workshop: A practical approach towards learning OS concepts ', Organized by Department of Mathematics, Fergusson College, Pune, on 8<sup>th</sup> June to 12<sup>th</sup> June 2020.
9. Five days online mode workshop on 'Internet of Things (IoT) and IT's Application in Industry', Organized by Ramrao Adik Institute of Technology, Nerul, Navi Mumbai, 8 to 12 June 2020.
10. Three days online mode workshop on 'Data Science with python programming', Organized by Smt.Kasturbai Walchand College (Art & Science ), Sangli, 12<sup>th</sup> to 14<sup>th</sup> June 2020.
11. One week Pedagogical online Training for 'Teachers on Tools for Online Teaching Learning and Evaluation', Organized Swami Ramanand Teerth Marathwada University, Nanded, 1<sup>st</sup> – 6<sup>th</sup> July 2020.
12. Two days National Level Online Faculty Development Program 'E-resources for Teaching, Learning, Research and IPR' organized by MIT Arts, Commerce & Science college, Alandi Pune on 10<sup>th</sup> and 11<sup>th</sup> July 2020.
13. Participated in the National Webinar on 'Current Trends in Electronics: IoT and its Applications' organized by Department of Electronic-Science, M.S. G. Arts, Sci & Comm. College Malegaon-Camp on 30<sup>th</sup> September 2020.
14. Three day's lecture series participated on "Data Analytics" organized by Society of Promotion of Excellence in Electronics Discipline (SPEED) Pune, held between 7<sup>th</sup> April to 9<sup>th</sup> April 2021.
15. Attended three day's Faculty development program on "System Design using Raspberry Pi" Organized by Department of Computer Science, Fergusson College, Pune, 25th, 28th and 29th Jan 2021.
16. Online Faculty development program on Learning, Pedagogy and effective use of case Methodology held from 17-21 May 2020

17. Successfully completed Five Days Online Faculty Development Programme on MOODLE-LEARNING MANAGEMENT SYSTEM from 10.05.2020 to 14.05.2020 organized by IQAC, Department of Information Technology and Computer Science in association with IIT Bombay Spoken-Tutorial.
18. One week's Online Faculty Development Program on "Opportunities & Challenges in Electronics & Allied Industries in India post COVID-19" from 25th to 30th May 2020 organized by Department of Electronics Engineering in association with Institution's Innovation Council (IIC) of Vivekanand Education Society's Institute of Technology.
19. Two-day's Faculty Development Program on "Research Methodology", organized by Dept. of Computer Science, Smt. Kasturbai Walchand College (Arts & Science) Sangali on 12<sup>th</sup> June-14<sup>th</sup> June 2020
20. One-day skill development and training workshop attended, "Professional Communication, Profiling, and Style Guide workshop" held on 2<sup>nd</sup> Feb 2022. organized by Mettle Innovations on
21. National Level Online Workshop participated "Electronic Design Automation (EDA) Tools" held on 10<sup>th</sup> August 2021 organized by Maratha Vidya Prasarak Samaj, K. K. Wagh Arts, Science and Commerce College Pimpalgaon (B.), Tal. Niphad, Dist. Nashik, Maharashtra,
22. Active participation in One Day International Webinar on Futuristic Devices: From Healthcare to Quantum Computing held on 9th August 2021, organized by Department of Electronics, Mahatma Gandhi Shikshan Mandal's Arts, Science and Commerce College Chopda, Dist: Jalgaon, Maharashtra, India.
23. Participated in the National Level webinar on "Introduction: Differences and Applications of Augmented versus Virtual Reality" jointly organized by Department of Electronic Science, MGU's BOS in Electronic Science, and Internal Quality Assurance Cell (IQAC) of the college. 24th February 2022
24. Participated in IP Awareness/Training program under National Intellectual Property Awareness Mission, organized by Intellectual Property Office, India on August 13, 2022.
25. Participated in one-day faculty development workshop held on "Interrelationship Between Pedagogy Assessment and Learning Outcomes" organized by the Internal Quality Assurance Cell, Fergusson College (Autonomous) Pune on 23<sup>rd</sup> May 2022
26. One day teachers training workshop on "MATLAB interfacing with IoT" organized by Prowiz Systems and department of Electronic Science, Fergusson College (Autonomous) Pune.
27. One-day Faculty Development Program under DBT star program on "ARM Microcontroller", organized by Fergusson College (Autonomous) Pune, April 2017



28. Attended two-day webinar on “An Insight into Intellectual Property Rights” conducted by SNJB’s Shriman Sureshdada Jain College of Pharmacy, Chandwad on 13th\_ 14th May 2020.

**Events Organized/Coordinated:**

Sr. No	Name of the Event	Name of organizing Institute/ College/ University	Nature of contribution	Dates
1	Conference on Advances in Electronics and its interdisciplinary applications	Fergusson College (Autonomous), Pune	Coordination committee	19-20 September 2014
2	PLC/SCADA Training	Fergusson College (Autonomous), Pune and Prolific System Pvt Ltd, Pune	Coordination of the Event	16 <sup>th</sup> -19 <sup>th</sup> August 2017
2	One day workshop on Basics of Raspberry Pi	Department of Electronic Science, Fergusson College (Autonomous)	Coordination of the Event	15 <sup>th</sup> June 2020
3	Three days Hands-on-Training workshop on “Internet of Things”	Department of Electronic Science, Fergusson College (Autonomous) and Smart Technologies under DBT (Department of Biotechnology) funded Star College Scheme	Coordination of the Event	3 <sup>rd</sup> to 5 <sup>th</sup> – January 2022
4	A Three days Hands-on-Training workshop for Faculty on “Lab View and Xilinx’	Department of Electronic Science, Fergusson College (Autonomous), Pune	Coordination of the Event	17 <sup>th</sup> to 19 <sup>th</sup> January 2022
5	Summer school/ Workshop “Current Trends in Transdisciplinary Electronic Systems (CTTES-2022)”under UGC STRIDE Component -I Program for UG, PG students from science discipline	Department of Electronic Science, Fergusson College (Autonomous), Pune	Coordinator of the Event	18 <sup>th</sup> to 23 <sup>rd</sup> July 2022
6	FC-HACKATHON 2022	Fergusson College (Autonomous), Pune	Coordinator	12 <sup>th</sup> -13 <sup>th</sup> March 2022

### **Additional skills/Activities**

- Proficiency in programming skills: Embedded C, C, C++, Java Language, Python Programming, HTML Programming, MATLAB programming.
- Electronic Circuit Designing
- HACATHON team Member
- Team member of a placement drive for KPIT company (2020-2021)

### **Course Content Developed (e-content)**

- Course Content of Communication Electronic Science subject, developed for e-PG Pathshala, UGC Scheme.
- Practical Handbook developed for M. Sc Electronic Science
- Article published in Shrutidnyan

### **Consultancy Services**

1. Worked as a team member of a placement drive for KPIT company (2020-2021)