Dr. Madhavi Omkar Gambhire

Present position

- **Assistant Professor in Computer Science Department, Fergusson college, Pune-4**

Contact Details (Mention e-mail) – fergusson.edu or despune.org

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- **gambhiremadhavi@gmail.com**

Work Experience

- **Teaching: 22 years**
- **Research: 7 years**

Personal Profile

Qualified M.Sc. in Electronics, SET, B.Ed. and Ph.D. Total teaching experience of 22 years. Area of Interest: Computer Organization, Microprocessor and Microcontroller. Poet and book lover. Willing to help blind students.

Courses Taught (Only Titles)

1. **Digital Electronics**
2. **Sequential Logic Circuit Design**
3. **Analog Electronics**
4. **Communication**
5. **Computer Organization**
6. **Microprocessor**
7. **Microcontroller**
8. **Single Board Computer**
9. **Research Methodology**

Field of Specialization/Areas of Interests

- **Radio Frequency Communication**
- **Embedded System design**
- **Embedded C Programming**
- **Python Programing**

- **Assembly language programming**
- **Raspberry Pi projects**
- **Digital circuit design**

Education

- **Ph.D. – (Electronics):** From 2016 to 2023

  Title of the Thesis: REAL TIME AIR POLLUTION LEVEL MONITORING AT TRAFFIC ISLAND USING RF SIGNAL ATTENUATION AND DEVELOPMENT OF ALARM SYSTEM WITH IoT

  Name of University / Institution: SPPU's Fergusson College Research Center of Electronics

  Name of guides: Dr. N. M. Kulkarni, Dr. A. D. Shaligram

  Year of Ph.D Award: 14 December 2023

- **State Eligibility Test (SET),** Maharashtra state in Electronics – Qualified in December 2010

- **Master of Science - (Electronics)**: 1997

  University/College – Shivaji University, Kolhapur

- **Bachelor of Science- (Electronics):** 1993

  College, University- Sangmeshwar College, Solapur, Shivaji University, Kolhapur

- **Bachelor of Education- (Science and Maths):** 1996

  College, University- Kasturbai College of Education, Solapur, Shivaji University, Kolhapur

Employment History

1) **Organization : Raja Shree Shivray Pratishthan's College of Science, Kothrud, Pune**
   Role   : Lecturer
   Duration   : 2000-2003

Responsibilities	
	- Course Co-Ordinator. - Laboratory Set up - Class Teacher

2) **Organization : Pune Vidyarthi Gruha's College of Science, Pune**
   Role   : Lecturer
   Duration   : 2004-2008

Responsibilities	
	- Laboratory Set up - Class Teacher

3) **Organization : Marathwada Mitra Mandal's College of Commerce and Science, Pune**

| Role | : Lecturer |
| Duration | : 2008-2009 |

Responsibilities	• Laboratory Set up
	• Class Teacher

4) **Organization : Deccan Education Society's Fergusson College, Pune**
   Role : **Assistant Professor**
   Duration : **2009 onwards**

Responsibilities	• Class Teacher
	• English and EVA Co-Ordinator from 2015-2018.
	• S.Y.B.Sc. (CS) other college admission Co-Ordinator from 2010
	• Examination Superuser during Pandemic 21-22 for online examination

Participation in Conferences/Seminars/Symposia/Workshop:

1. Two-day workshop on **"Implementation of S.Y.B.Sc.(CS) Electronics Syllabus"** organized by Department of Electronic Science, SPPU, 7,8 December 2009
2. Workshop on **Electronic Circuit Design** Using S-LAB 11 October 2010
3. Seminar On **Energy conservation and Environmental Protection** 20 July 2011
4. Panel discussion on **Research Methodology,** organized by Research Center in Electronic Science, Fergusson College, 27 March 2012
5. Worked as a member of Organizing Committee for one day workshop on "**Views on Electronics syllabus upgradation for F.Y.B.Sc.(CS)**" held on 1st December 2012 at Fergusson College
6. National level workshop on **Research Papers Writing and Publishing using Latex**, 8-9 February 2013
7. National Seminar on "**Digital Image Processing**" organized by MAER's Arts, Commerce and Science College, Pune, 13-14 February 2014
8. Two days FDP on "Basics of Machine Learning with R" under DBT STAR College scheme, Dept. of Biotechnology, Ministry of Science and Technology. Government of India, New Delhi organized by Fergusson College, Pune on 29th and 30th March 2017
9. One day FDP on "**ARM Microcontroller Applications**" under DBT STAR College scheme, Dept. of Biotechnology, Ministry of Science and Technology. Government of India New Delhi organized by Fergusson College, Pune on 6th April 2017
10. Three-day FDP on "Python Programming" under DBT STAR College scheme, Dept. of Biotechnology, Ministry of Science and Technology. Government of India New Delhi organized by Fergusson College, Pune during 21st, 22nd and 23rd June 2018
11. Presented Poster in the "4th International Conference on Emerging Technologies: Micro to Nano ETMN 2019" held on 16th and 17th December 2019.
12. One Day National Online Webinar on **Cyberbullying: Perspectives, Effects and Prevention**, 24/06/2021

13. Awarded first Best Research Paper in National Conference on "**Emerging trends in Science, Technology and Smart Computing**" by DES's Willingdon college, Sangli, 5 March 2021
14. National Webinar on **IoT: New Era of Digitization** on 8/1/2022
15. One Day National Webinar on **IoT based Farming, Technologies, Practices and Future Direction**, 11/2/2022
16. National Level Webinar on **Introduction to Robotics and Programming PUMA Robot**, 18/02/2022
17. Awarded second Best Research Paper in International Conference on "**Recent trends in Science and Technology**" by DES's Willingdon college, Sangli, 29/06/2022
18. **National Intellectual Property Awareness Mission Training Program** under Intellectual Property Office, India, 13/08/2022
19. Participated in an **International Conference** organized by INSPIRA, Rajasthan with Kaveri College, Pune on 27 **August 2022**.
20. Participated in 9th **National Conference** on Emerging Trends in Computer Science and Applications held by Indira College, Wakad, Pune on **12th April 2023**.
21. Participated in an **international conference** On Futuristic Trends in Information Technology (ICFTIT) organized by BLDEA's A S Patil College of Commerce, Department of BCA, Vijayapura, Karnataka and Computer Science department, Shivaji University, Kolhapur On 29th **April, 2023**.

Publications:

1. Presented a poster titled "Effect of Air Pollution Level on RF Attenuation" at 4th International conference on emerging Technologies: Micro to Nano (ETMN-2019)" jointly organized by Savitribai Phule Pune University, Pune, Maharashtra and Manipal University, Jaipur, Rajasthan on 16-17 December 2019.

2. Presented and received the Best Paper presentation award for the paper entitled " Comparative Study of RF Attenuation in Open Air with Closed Chamber" in a National Conference organized by Willingdon College, Sangli on 21 March 2021 and published in Progression in Science, Technology and Smart Computing ISBN number -978-81-948061-2-7

3. Presented and received second rank in the Best paper presentation award for the paper entitled "Measurement Of CO_2 Gas Concentration Using MQ135 Sensor For Air Pollution Monitoring" in an International Conference organized by Willingdon College, Sangli on 29th June 2022 and published in Recent Trends in Science and Technology- Electronics (EL) ISBN Number: 978-81-948061-9-6

4. Presented and received the Best Paper presentation award for the paper entitled "Warehouse Stock Management Using RF Attenuation System" in an International Conference organized by INSPIRA, Rajasthan with Kaveri College, Pune on 27 August 2022. Published in International Journal of Innovations & Research Analysis (IJIRA), ISSN: 2583-0295, Impact Factor 5.449, Volume 02,No.03(II),July-Septemper,2022,pp 25-33

Events Organized/Coordinated:

Sr. No	Name of the Event	Name of organizing Institute/ College/ University	Nature of contribution	Dates
1	one day workshop on "Views on Electronics syllabus upgradation for F.Y.B.Sc.(CS)"	Fergusson College, Pune	member of Organizing Committee	1st December 2012
2	National Conference on Emerging Trends in Computer Science and Computer Applications NCETCSA 2013	Fergusson College, Pune	Food and Inauguration	7,8 December 2013
3	Three days Faculty Development program on "System Design using Raspberry Pi" under Stride	Fergusson College, Pune	Organized	25th, 28th and 29th January, 2021

Additional skills/Activities

1. Poet
2. Worked for Blind Students for recording educational content and writing the assignments
3. Mentoring the students

Course Content Developed (e-content)

1. Developed e-content for Electronics Subjects of F.Y.B.Sc.(CS) such as Sequential Logic circuits, computer Organization.
2. Developed e-content for Electronics Subjects of S.Y.B.Sc.(CS) such as Microprocessor, Advanced Microcontroller LPC 2148, 8051 Microcontroller, Single Board Computer Raspberry Pi 3 B+.

Consultancy Services

1. KPIT Recruitment Drive Contribution for interviewing Diploma and engineering candidates held in Fergusson college, Pune