Faculty: CV

1. Personal Information

- **Name**: Dr. Rajashree Vilas Sarwadnya

- **Position**: Associate Professor

- **Department**: Instrumentation Engineering

- **Contact Information**: rvsarwadnya@sggs.ac.in 02462-269369

2. Educational Background

- **Degrees**: All degrees with specialization, university, and year of graduation.

Sr. No.	Degree	Department	Institution/ University/Board	Year
01	Ph.D.	Electrical Engineering	Indian Institute of Technology, Bombay	2008
Title of Ph.D. Thesis: Micro-fabricated System for Microbial Assay				
02	M.E	Instrumentation Engineering	Marathwada University, Aurangabad	1993
Title of M.E. Thesis: Microprocessor-Based High Voltage Testing of Insulating Papers				
03	B.E	Instrumentation Engineering	Marathwada University, Aurangabad	1988
04	Diploma	Electrical Engineering	Board of Technical Education Bombay	1985
05	S.S.C.	SSC Board Latur Division	Maharashtra State Board, Aurangabad	1982

- **Postdoctoral Experience**: Worked in Nanofabrication facility of IIT Mumbai.

  Two weeks Hands on Training on MEMS Fabrication at CEERI Pilani, Rajasthan under NPMASS during June 1-12, 2009.

- **Certifications**:

S.N.					
01	National workshop on MEMS Technology and Applications	Cummins' COE Pune NPMASS & ISSS	03 Days	22/01/09	24/01/09

02	2nd INUP Workshop on Nanofabrication Technologies	IIT Bombay	02 Days	30/05/09	31/05/09
03	SCILAB and Its Application to Global Optimization and Fractional Differential Equations	SGGSIE&T Nanded & IIT Bombay	03 Days	23/04/10	25/04/10
04	One Day Workshop on Industrial Instrumentation	SGGSIE&T Nanded & IIT Bombay	01 Day	16/03/11	16/03/11
05	Two Week Course on Linear Algebra and It's Applications	SGGSIE&T Nanded (TEQIP)	Two Week	21/05/12	02/06/12
06	13th INUP Hands-on Training Workshop on Nanofabrication Technologies & TCAD Sentaurus Workshop	IIT Bombay (INUP)	One Week	26/11/12	30/11/12
07	International Conference on Elements of Electronics	IIT Bombay	03 Days	15/12/12	17/12/12
08	FDP on Wireless Sensors and Their Applications	SGGSIE&T Nanded (TEQIP)	One Week	18/03/13	22/03/13
09	Interdisciplinary International Collaborative Programme entitled sustainable Energy Development Learning Camp **(Organized)**	SGGSIE&T Nanded (TEQIP-II)	One Week	16/09/13	20/09/13
10	Indo-German Winter Academy **(Organized)**	COE Pune and Ostfalia University of Applied Sciences Germany	One Week	24/11/13	30/11/13
11	FDP on Emerging Trends in Nanoscience and Nanotechnology **(Organized)**	SGGSIE&T Nanded (TEQIP)	One Week	06/08/13	10/08/13
12	Interdisciplinary International Collaborative Programme entitled sustainable Energy Development Project Design & Learning Camp **(Organized)**	SGGSIE&T Nanded (TEQIP-II)	One Week	16/09/13	20/09/13
13	Workshop on MEMS Design and Simulation using TCAD Software **(Organized)**	SGGSIE&T Nanded (TEQIP-II)	03 Days	24/03/14	26/03/14
14	QIP Short term course on Embedded Control Systems	IIT Bombay AICTE (CE & QIP)	One Week	12/05/14	16/05/14
15	Workshop on Advanced Control of	SGGSIE&T Nanded	02	09/01/15	10/01/15

	Underwater Vehicles	(TEQIP-II)	Days		
16	Training programme on Best Practices in Outcome Based Curricula Design and Pedagogy Alignment	YASHADA Pune	One Week	09/02/15	13/02/15
17	Workshop on Cyber Security & Forensic Tools	SGGSIE&T Nanded (TEQIP-II)	02 Days	27/03/15	28/03/15
18	STTP on Biomedical Signal Processing	SGGSIE&T Nanded (TEQIP-II :CoE)	One Week	30/03/15	03/04/15
19	Workshop on Probability, Statistics and Random Processes	SGGSIE&T Nanded (TEQIP-II :CoE)	02 Days	28/02/15	01/03/15
20	U Deliver V Nurture: Intellect Creation and Protection for Image Processing	SGGSIE&T Nanded (TEQIP-II :CoE)	01 Day	25/04/15	--
21	Two Week Course on Advances in Multi-rate Signal Processing	SGGSIE&T Nanded (AICTE)	Two Week	29/06/15	10/07/15
22	CDEEP Course on Simulation Tools in Electronics and Digital Systems	IIT Bombay TEQIP-KITE MHRD India	One Week	04/01/16	08/01/16
23	Training on Delta V DCS	Department of Instrumentation Engineering, SGGSIE&T, Nanded	One Week	16/01/2017	20/01/2017
24	CMOS, Mixed Signal and Radio Frequency VLSI Design	Two-Week ISTE STTP NMEICT-IIT Kharagpur (Remote Center: MGMCE Nanded)	Two Week	30/01/17	04/02/17
25	Analog IC Design - Circuit and Layout Design Methodologies Using Cadence Analog Design Flow	SGGSIE&T Nanded (TEQIP-III)	One Week	26/12/17	30/12/17
26	VLSI Design: Basics to Advanced	SGGSIE&T Nanded (AICTE)	One Week	01/01/18	05/01/18
27	Fundamentals of Fluid Mechanics	SGGSIE&T Nanded (AICTE)	One Week	13/03/18	17/03/18
28	QIP program on RECENT TRENDS IN CONTROL SYSTEM AND APPLICATIONS	Department of Instrumentation Engineering, SGGSIE&T, Nanded	One week	01/07/2019	05/07/2019
29	Online Short-Term Interdisciplinary Course "Advanced Functional Materials in Engineering"	Department of Chemical Engineering, SGGSIE&T, Nanded	One week	24/02/2020	28/02/2020
30	Online course on Examination	AICTE	04	22/04/2020	25/04/2020

	Reforms		Days		
31	FDP on "Moodle Learning Management System"	K J Somaiya Institute of Engineering and Information Technology, Sion	One week	26/05/2020	30/05/2020
32	Online workshop on "Education 4.0- Season II"	IQAC, Atharva College Of Engineering, Malad West, Mumbai	03 Days	28/05/2020	30/05/2020
33	Online STTP on "Recent Trends & Applications of Solar Photovoltaic Energy System"	Department of Electronics and Telecommunication Engineering, Dr. Rajendra Gode Institute of Technology & Research, Amravati	One week	02/06/2020	06/06/2020
34	Online FDP on Challanges and Opportunities in Recent Emerging Technoloies	Department of Chemical Engineering, SGGSIE&T, Nanded	One Week	06/07/2020	10/07/2020
35	Online FDP on Assessment and Evaluation in Higher Education	IISER, Bhopal	One Week	27/07/2020	31/07/2020
36	Online FDP on VLSI and Nanotechnology in Energy, Environment, and Neuromorphic Computation	Centre for Advanced Electronics (CAE), IIT Indore	03 Days	21/12/2020	23/12/2020
37	Embedded Systems- An Application Driven Approach	AICTE, ATAL academy, ST Microelectronics and ARM Education	03 Days	25/08/2021	27/08/2021
38	Electronics System Design	ATAL- AICTE Academy sponsored	One week	16/12/2021	22/12/2021

3. Research Interests

- **Areas of Expertise**: Analog and Digital Instrumentation, Sensor Technology, MEMS and VLSI Technology

- **Ongoing Projects**: -----

- **Interdisciplinary Work**: Interdisciplinary projects under AICTE-IDEA Lab.

4. Teaching Experience

- **Courses Taught**:

PG Courses			
1.	Instrument Transducers	2.	Process Instrumentation
3.	Digital Measurement Techniques	4.	IC Technology
UG courses			

5.	Elements of Electrical & Instrumentation Engineering	6.	Digital Electronics and Logic Design
7.	Transducer Technology	8.	Power Plant Instrumentation
9.	Electrical Machines	10.	PC Based Instrumentation
11.	Control System Components	12.	Feedback Control systems
13.	Basic Electronics	14.	Embedded System Design
15.	Chemical and Analytical Instrumentation	16.	Microprocessor and Microcontroller
17.	Digital System Design	18.	Introduction to MEMS
19.	Analog Electronic Circuits	20.	Industrial Automation and Robotics

- **Course Development**: Creation or redesign of any courses or curriculum.

5. Publications and Presentations

Books: ---------

Journal Articles:
1. V. V. Sarwadnya, S.G. Kahalekar, R.V. Sarwadnya, "*Simulation of Electromagnetics Planar Structures for High Frequency Applications*", International Journal of Advanced Electronics and Communication Systems, approved by CSIR-NISCAIR ISSN NO. 2277-7318, 2014.
2. J.B. Nade, R.V. Sarwadnya, "*The Soft Core Processors: A Review*", International Journal of Innovative Research in Electrical Electronics Instrumentation and Control Engg. Vol. 3, Issue 12, December 2015.
3. Dinesh D. Kulkarni, Rajashree V. Sarwadnya , "*Studies on Electrical Properties of $(Ta_2O_5)_{87.5}$ and $(TiO_2)_{12.5}$ Mixed Oxide for MOSFET*", International Journal of Research in Engineering Application and Management ISSN: 2454:9150 Vol 04, Issue 02, May 2018.
4. Dinesh D. Kulkarni, Rajashree V. Sarwadnya, "*Mosaic Target DC Sputtering to Synthesize $(Ta_2O_5)_x$ with $(TiO_2)_{1-x}$ Mixed Oxide as High K Dielectric*", Journal of Emerging Technologies and Innovative Research, ISSN:2349-5262 Vol. 5, Issue 5, May 2018.
5. Ravi K. Biradar, R.V. Sarwadnya, "*Multi Rate Output Feedback control of Doubly-Fed Induction Motor*", International Journal of Computer Science and Engineering, Vol. 6 Issue 8, pp 681-686, August 2018.
6. Vilas Sarwadnya, Rajashree Sarwadnya, Shambhunath Kahalekar, "*Effect of Ferrofluid on Quality Factor of Printed Spiral Winding (PSW) Structures*" International Journal of Research in Advent Technology, Vol.6, No.11, E-ISSN: 2321-9637, November 2018.
7. Vilas V. Sarwadnya, R.V. Sarwadnya, Shambhunath G. Kahalekar, "*Design of Liquid Core Transformer for Hybrid Electric Vehicles*", International Journal of Research in Electronics and Computer Engineering, Vol.6 Issue 4, pp 450-453, December 2018.
8. Ravi K. Biradar, R.V. Sarwadnya ,"*Multirate output feedback-based robust sensorless control of doubly-fed induction motor*", International Journal of Industrial Electronics and Drives, Vol. 4, issue 4, pp 206-214, Inderscience Journal 2018.

9. R.V.Sarwadnya, Mrinalini P. Sirsat, Gayatri Vangal, *"Experimental Validation of Frequency Response Model Matching Method for Process with Dead Time"*, International Journal of Embedded systems and Emerging Technologies) Vol 5 Issue 1, p30-40, June 2019.

10. Seema Jadhav, R.V. Sarwadnya, "*A Brawny hybrid FOFPID in MODA controller in HEVs*", Energy sources Part A: Recovery, Utilization and Environmental effects, Vol 42, issue 7 2020 Published online 30 April 2019.

11. Mrinalini P. Sirsat, Rajashree V. Sarwadnya, "*Swarm-Based Optimizers for PID Tuning of Bioreactor* In book: Smart Sensors Measurements and Instrumentation (pp.381-394) May 2021.

Conference Papers:

12. C.B.Deshpande, S.J.Vaidya, R.P.Subhedar, "PC Based Weather Monitoring System" presented in the *National Conference on Real Time Systems held at S.G.S.I.T.S. Indore* during February 23-25, 1991

13. C.B.Deshpande, S.J.Vaidya, R.P.Subhedar, "Microprocessor Based Dielectric Oil Testing*",* presented in the *International Conference on EC^3 – TENCON 91 of IEEE held at New Delhi* during August 28-30, 1991.

14. R.P.Subhedar, C.B.Deshpande, "Microprocessor Based High Voltage Testing of Insulating Papers*",* published in the *Journal of the Institution of Engineers (India), Electrical Engg. Division,* V75 Feb. 1995, pp. 198-204.

15. V.V.Sarwadnya, R.V.Sarwadnya, C.B.Deshpande, "*Microprocessor Based Alternator Synchroniser*", published in the Journal of the Institution of Engineers (India), Electrical Engg.Division, V80 Nov. 1999, pp. 109-114.

16. Rajashree Sarwadnya, Rakesh Lal, "*On-chip Electrochemical Detection of L-Serine at Planar Gold Electrodes*", accepted for publication in the *International Conference on Semiconductor Electronics at Malaysia* during November 25-27, 2008.

17. Rajashree Sarwadnya, Rakesh Lal, "*Development of Microfluidic Chip for Bacterial Chemotaxis*", presented in the International Conference on ICMEMS 2009 organized by IIT Madras during January 3-5, 2009.

18. Mr. Sumitkumar S. Rathor, Manik. K. Rodge, Mrs. Rajashree. V. Sarwadnya, "*Energy Resource Structure in India and Maharashtra: A Review*", presented in the International conference on Recent Advances in Mechanical Engineering (ICRAME-2015) during 26- 28 Feb – 2015.

19. Anita Shelke, N. R. Kolhare, R.V. Sarwadnya, Vishal Kangane "*Wireless RF Communication Based On DSP" ,* IEEE 3rd International Conference On Devices Circuits And Systems (ICDCS) 3rd to 5th March 2016.

20. Vishal A. Kangane, N. R. Kolhare, R. V. Sarwadnya and Anita L. Shelke, "*Implemetation of Real Time Speaker Recognition System Using MFCC and Vector Quantization on TMS320C6713DSK*" 6th IEEE International Conference on Communication and Signal Processing-**ICCSP'1**6 Tamilnadu, India during April 06-08, 2016.

- **Editorial Work**: Reviewed Conference / Journal papers under easy chair.

6. Awards and Honors

Grants: AICTE-RPS grant Rs. 7.65 lakhs for the Project "Development of EIS Setup for Biotechnology Applications" during the year 2009.

Awards: Awarded Certificate of Merit for 1994-95 for the published Journal paper entitled *'Microprocessor Based High Voltage Testing of Insulating Papers'* by The Institution of Engineers

- **Fellowships**: ISTE Life Member LM 6807, ISA member

7. Professional Experience

Administrative Roles:

 a) Head of Electrical Maintenance Cell w.e.f. 22/08/2017 to 02/08/2020

b) Head of Electrical Engineering w.e.f. 14/06/2018 to 02/08/2020

c) Head of Instrumentation Engineering w.e.f. 03/08/2020-03/07/2022

d) IDEA Lab. Coordinator since October 2023.

- **Industry Collaboration**: ------
- **Consulting Work**: ------

8. Supervision and Mentoring

- **PhD/Master's Supervision**:

S.N.	Name of the Thesis	Name of the student	Year
	M.Tech Thesis		
1.	Design and Development of Anodic Bonding setup	Ms. Gargi R. Pathak	2004-05
2.	SCADA for High-Pressure Fixed Bed Reactor	Agnihotri Santosh P.	2005-06
3	Study of various Macromodels for Operational Amplifiers	Chikyal Neetu	2005-06
4.	Soot Blowing Operation in Boilers using PLC and SCADA	Gajanan Bellale	2007-08
5.	Microcontroller based Adjustable Speed Control of Single Phase Induction Motor	Mrs. Indira Biradar	2007-08
6.	Automation of Sterilization Process & Clean-In-Place (CIP) Plant using Hybrid Distributed Control system	Sanjay C. Jabde	2010-11
7.	Number Plate Identification Based on Image Processing Techniques	Sanjay B. Joshi	2010-11

8	Automation of Sewage Treatment Plant using PLC & SCADA	Ms. Rachana R. Sangitrao	2011-12
9.	Design and Modeling of MEMS capacitive pressure sensor	Alfiya Ameen	2011-12
11.	Design Approach for Analog and Digital PID Controller	Sonal Shingnapure	2013-14
12.	Design Topology of Low Profile Transformer for Slim Adapter	Pankaj Rajbhoj	2014-15
13.	Design of PID Controller Strategies for Process Application	Gayatri Vangal	2015-16
14.	Design and Development of Dual Wavelength-Based Chlorophyll Measurement System	Rushikesh Ambhore	2015-16
15.	Object Detection and Tracking System Using LabVIEW	Sheetal Waghmare	2016-17
16.	Integration of Standard Milling Control for Engraving Applications	Vishal Suryavanshi	2017-18
17.	Automatic Detection of Exudates and Microaneurysms using Fundus Images	Piyush Kadam	2017-18
18.	Automatic Number Plate Recognition using MATLAB	Kapil Padit	2018-19
19.	Automatic Whiteboard Cleaner for Effective Cleaning Mechanism	Shubham Khandare	2018-19
PhD Thesis			
1.	Robust Controller Analysis and Design Using Doubly fed Induction Motor	Ravi Keshavrao Biradar	03-02-2022
2.	Hybrid Control Approach Based PID Controller for Process Control Application	Seema Haribhau Jadhav	19-05-2023

9. Professional Memberships

- **Associations**: ISTE Life member, ISA Membership

10. Miscellaneous

- **Languages**: English, Hindi, Marathi, Sanskrit

- **Skills**: TCAD Software: COMSOL Multiphysics, Circuit simulation softwares: PSPICE, MultiSIM

- **Personal Interests**: Singing, Music