BIO-DATA

1. **Name**   Dr. Sunita Aniruddha Patil (Ugale)
2. **Date of Birth**   28th June 1975
3. **Designation**   Asso. Professor in E &TC Engg
4. **Address**   Sai Sadan, Sharanpur
                       Road, Tilak wadi,
                       Nashik-422002

5. **Educational Qualifications   :**

Sr. No	Degree Awarded	University/Institution	Year of passing	Subject	Marks obtained
1.	Ph. D.	SVNIT, Surat	2014	Electronics	-
2.	M. Tech.	DOEACC formerly known as CEDTI, Aurangabad.	2004	Electronics Design Technology	79%
3.	B.E.	University of Pune.	1996	Electronics	63%

6. **Employment Record (Starting from present position)**

Sr. No	Designation	Institution / Organization	Period From	To
1.	Assoc. Prof.	K. K. Wagh College of Engg. Nashik	1.8.2012	Till date
2.	Asst. Prof.	K. K. Wagh College of Engg. Nashik	24-08-09	31.7.2012
3.	Sr. Lecturer	K. K. Wagh College of Engg. Nashik	01-07-07	23-08-2009
4.	Lecturer	K. K. Wagh College of Engg. Nashik	01-08- 96	30-06-2007

7. **Professional body membership:**

   i. **LMISTE**

   ii. **Member IETE**

   iii.   **Member IET**

8.   **Projects guided at PG Level:25**

9. Work Experience:

a. Worked as an active **member in Board of Studies of Electronics** at Pune University.
b. Received **"Lady Engineer Award"** from Institution of Engineers, IEI, Nashik Local center on the occasion of Engineers day celebration 2008.

c. Recognized as a **Ph. D Research Guide** and **Post-Graduate Teacher** in subject of Electronics & Telecommunication.
d. Worked as Board member for annual Magazine of college.
e. Worked as committee member for Earn & Learn Scheme.
f. Worked as an Anti Ragging Squad member.
g. Lab In Charge of Communication Engineering Lab.
h. Worked In Different Committees of Annual Social Gathering.
i. Worked as an Active member in Campus Beautification committee of college.
j. Working as Time Table Coordinator for department since last ten years.
k. Obtained grant of **Rs. 50,000/-** from **Pune University** for college level equipment purchase under Quality Improvement Program & working as a co-ordinator for the same.
l. Developed **Virtual Laboratory** for digital Electronics, for the benefit of students. The student can check the results for various circuit conditions without making changes in the hardware in less time with this concept.
m. Prepared Printed Journals for Lab Practices of different subjects to reduce unnecessary time in copying the theory related to Practicals.
n. Guided approximately 40 final year projects at UG level and 6 at PG level.
o. Guided approximately 100 mini-projects of third year students of engineering.
p. Organized National level Symposium **"ENANTIOSIS"**, & worked as a co-ordinator for circuit design competition event for the same.
q. Organized District level **Miniproject Competition "EUREKA"**, for TE students for last 2 years & worked as a co-ordinator for the same.
r. Guided the project "CRO Based Game" for national level project competition Techfest 2007, which got **first prize at IIT**, Powai.
s. Worked as coordinator for National level congregation "**Telekinesis2012**".
t. Worked as a judge for   **State level Paper Presentation Competition SPARKIT 2013.**
u. Invited as a judge for **State level project competition MVP-ELICIT 2013**.
v. Invited as a judge for National level project competition ProUtsav 2013 at K. K. Wagh Polytechnique Nashik.
w. Worked as a **co-convener for ePGCON14,** an annual conference conducted by board of studies (Electronics), University of Pune, for post graduate students of Electronics and E&TC Engineering to present their dissertation work in the form of paper.(23rd-24th March 2014)
x. Invited as a **session chair** for Conference on Wireless Communication & Android Applications "WiCAA-15" at KVNNIEER.
y. Worked as **coordinator for Telekinesis2K15**, a national level congregation at E&TC department of K. K. Wagh IEER, Nashik (13th-14th March 2015).
z. Developed course Optical Communication under the project named "**National Mission Project on Education through ICT**", hosted by IIT, Kharagpur.
aa. Worked as **College Examination Officer** since Sept. 2014.to Sept. 2016.
bb. Indian Water Resources Society, Pune Local Center delivered **IWRS's Er. Suresh Shirke Award-2016** for Academic Project Titled "Implementation of Digital Software Defined Transceiver System using GNU Radio and RTL SDR for real time hydrological data transmission during flood management guided by me.

cc. Organizing Committee member of 2nd World Conference on Applied Science Engineering and Technology, 29th - 30th December,2016 , Goa , India.

dd. Received **Best Industry Aligned Research Award** from CSI Mumbai Chapter in Technext India 2018.

Reviewer:

Working as a reviewer for the international journals:
1. Sensors & Actuators: B. Chemical
2. SCIENCEDOMAIN International
3. Zeitschrift fuer Naturforschung A, Tuebingen
4. International Knowledge press
5. Journal of Engineering
6. Evaluator for AICTE AQIS proposals (MODROB, STTP, Travel Grants)

Worked as a reviewer for conferences:
1. IEEE International Conference for convergence of Technology 2014.
2. cPGCon14, an annual conference conducted by board of studies (Electronics), University of Pune, for post graduate students of E&TC Engg.
3. ePGCon14, an annual conference conducted by board of studies (Electronics), University of Pune, for post graduate students of Computer Engg.
4. IEEE International conference ET2ECN2014.
5. International Conference I2CT2015.
6. International Conference ICRTET2015.
7. Conference CASP2016

Consultancy:
Following projects are designed & implemented successfully.
[1] Development of SERIM Inverter for EPCOS (India) Pvt. Ltd, Nashik
[2] Development of AC to DC Adapter with special interfacing for EPCOS (India) Pvt. Ltd., Nashik
[3] DSP based display & keyboard interfacing card for supporting main card of CNC machine for Kouger Technologies, Ambad Nashik.
[4] Development of "Microcontroller based Cyclic Timer for device control" for SST systems, Nashik.

Online Course Developed:
Developed online course for the Optical Communication   under the project named "**National Mission Project on Education through ICT**", hosted by IIT, Kharagpur.

Research Grants:

1. Got sanction of financial assistance of Rs. 34, 40,000/- for the project entitled "Development of intelligent optical bio-chemical sensor using optical fiber gratings" (DST/ TSG/ PT/ 2011/ 195-G) by Government of India, Department of Science and Technology.

2. Got sanction of financial assistance of Rs. 1, 40,000/- for the project entitled, FPGA Based creative transceiver with dynamic adaptability for realizable software defined radio", by BCUD.

3. Got sanction of financial assistance of Rs. 1, 40,000/- for the project entitled, "Design of High Performance Phase Locked Loop for UHF Band in 120 nm CMOS Technology", by BCUD.
4. Got sanction of financial assistance of Rs. : Rs 150.81 lakhs for project "Technology Pilot for DC Charging technologies for EV Bus") (TPEM/2017/035) under DHI-TPEM Technology Platform for Electric Mobility in collaboration with industry PANVA Engg. Pvt. Ltd. Ambad.

Patents filed:

1. Title:" Arithmetic digital calculator", Published in The Patent Office Journal No. 15/2018 dated 13/04/2018
2. Title: "Real Time Detection of Milk adulterants using sensor array", Published in The Patent Office Journal No. 12/2022 dated 25/03/2022
3. Title: "Design and Development of E-Jacket for women safety: Rakshika", Published in The Patent Office Journal No. 33/2022 dated 19/08/2022

Books:
[1] **"Electrical Circuits & Machines"** for Electronics and E& TC Engineering second year students of Pune University in February 2005 by Central Techno Publication, Nagpur.
[2] **Fiber Optical Communication: Systems and Components**",1st ed., Wiley India,(2012).
[3] **Fiber Optical Communication: Systems and Components**", Precise text book for AKU, Wiley India,(2014).

Other publications:
- A technical article, "A three phase fully controlled converter", published in a refereed journal on laboratory experiments, LE Lab Experiments vol-9, No. 3, Sept 2009.
- Lab journal for YCMOU, B. Tech course students of 11th semester(available online on YCMOU website).

Subjects Taught at UG Level:

Optical & Microwave Communication, Opto Electronics, Digital Signal Processing, Advanced digital signal processing, VLSI Design, Digital Design & Computer Organization, Electronic System Design.

Subjects Taught at PG Level:
Analog digital CMOS IC Design, Advanced Digital system Design, System On Chip, Reconfigurable computing, Digital CMOS Design, ASIC Design.

Expert Talks:
- Expert Lecture on " Fiber Optics Communication" for E&TC Dept. of K. K. Wagh Women"s Polytechnique, Nashik, in July 2012.
- Expert lecture on " Digital Signal Processing" for K. K. Wagh Computer Science college, Saraswati Nagar, Nashik

- Resource person for STTP " Hands on Digital & Analog circuits design using VLSI tools", at JNEC, Aurangabad.
- Resource person for workshop on "Digital and Analog VLSI Design" at MET Institute of Engineering, Nashik.
- Expert lecture on " Digital CMOS Design " at SNJB KBJ College of Engineering Chandwad.

List of Publications:

International Journals:

[1] Modeling and characterization of fiber Bragg grating for maximum reflectivity, Optik - International Journal for Light and Electron Optics, Vol. 122, No. 22, pp 1990-1993, 2011.

[2] Optimization of Reversible LPFG for Sensing Application, Optik -International Journal for Light and Electron Optics, Vol.125, No.1, pp 111– 114, 2014.

[3] Formation and Characterization of Non Uniform Long and Ultralong Period Reversible Optical Fiber Gratings , Optik -International Journal for Light and Electron Optics, Vol. 125, No. 15, pp 3822-3824, 2014.

[4] "Implementation of Encoder for PCM Telemetry using FPGA" is CIT JOURNAL OF RESEARCH(CITJR).

[5] "Digital Watermarking Techniques" CIT JOURNAL OF RESEARCH(CITJR)

[6] Fiber Bragg Grating Modeling, Characterization and Optimization with different index profiles, International Journal of Engineering Science and Technology Vol. 2(9), 4463-4468, 2010.

[7] Optimization of Apodized Fiber Bragg Grating for Sensing Applications, Special issue of international journal of computer applications(0975-8887) on electronics, information and communication engineering –ICEICE No. 3, Dec 2011.

[8] Higher Order Diffraction Characteristics of Fiber Bragg Grating, International Journal of Electronics Communication and Computer Engineering Volume 4, Issue 1, ISSN (Online) : 2249–071X, ISSN (Print): 2278–4209

[9] Tunable optical filter based on mechanically induced cascaded long period optical fiber grating, Hindawi Publishing Corporation, Journal of Photonics Volume 2013, doi:10.1155/2013/415059

[10] Pressure Sensor Based on Mechanically Induced LPFG in Novel MSM Fiber Structure," Optics and Photonics Journal, Vol. 3 No. 3, 2013, pp. 225-228. doi: 10.4236/opj.2013.33036

[11]Fabrication and Characterization of Ultra long period Reversible fiber Gratings", **Journal of Optics** Volume 43 Number 3, pp169-172 (2014), ISSN 0972-8821, DOI 10.1007/s12596-014-0201-1.

[12] Efficient Migration to Windows , Journal of software, JSW 2015 Vol.10(8): 1030- 1036 ISSN: 1796-217X, doi: 10.17706/jsw.10.8.1030-1036

[13] Model Transformation: Concept, Current Trends and Challenges International Journal of Computer Applications (0975 – 8887) Volume 119 – No.14, June 2015

[14] Implementation of Robust HOG-SVM based Pedestrian Classification International Journal of Computer Applications (0975 – 8887) Volume 114 – No. 19, March 2015, ISBN : 973-93-80885-86-6.

[15] "A Review on Day-Time Pedestrian Detection," SAE Technical Paper 2015-01-0311, 2015, doi:10.4271/2015-01-0311.

[16] "A Digital Motor Protection Relay for HT Motors"" International Journal Of Research In Electronics And Computer Engineering IJRECE Vol. 2 Issue 4

Oct-Dec 2014 ISSN: 2393-9028 (PRINT) | ISSN: 2348-2281 (ONLINE).

[17]   Liquid Identification Using e Tongue International Journal of Modern Trends in Engineering and ResearchVolume 2, Issue 7, [July-2015] Special Issue of ICRTET"2015 e-ISSN No.:2349-9745, Date: 2-4 July, 2015

[18]   Fingerprint Recognition Using Level 3 Features, International Journal of Advanced Research in Computer and Communication Engineering Vol. 3, Issue 6, June 2014.

[19]   Modeling and Simulation of Different Types of Faults in Semiconductor Memories, International conference on Recent Trends in Engineering & Technology, at SNJB"s COE, Nashik, March 2014.

[20]   Implementation of Text Encryption and Decryption in Advanced Encryption Standard", ASM International Journal of Ongoing Research in Management and IT e-ISSN-2320-0065, Pune, 2013.

[21]   "Model Transformation: Concept, Current Trends and Challenges", International Journal of Computer Applications (0975 – 8887) Volume 119 – No.14, June 2015.

[22]   "Analysis of different multiplication algorithm & FPGA implementation of recursive barrel shifter method for multiplication", IRJET, 2395-0056, 2016.

[23]   "Electricity meter box automation", IJEAST, 2455-2143, 2016.

[24]   "Vehicle Automation using Controller Area Network", IRJET, 2395-0056, 2016.

[25]   "FPGA Implementation and Analysis of Different Multiplication Algorithm", International Journal of Computer Applications (0975 – 8887)
Volume 149 – No.2, September 2016

[26]   "CAN based Automatic Fog Light and Wiper Controller for Vehicle", International Journal of Computer Applications (0975 – 8887) Volume 150 – No.4, September 2016.

[27]   "Poka Yoka for Filter Pin Detection in Nozel Holder Body", International Journal of Engineering Technology Science and Research IJETSR, Volume 4, Issue 5 May 2017.

[28]   " Design and Implementation of BPSK Audio Transmitter & Receiver Using SDR", International Journals of Advanced Research in Computer Science and Software Engineering Volume-7, Issue-6, pp268-273, June 2017.

[29]   Modelling, Designing and Analysis of Phase Locked Loop Using Pyxis Tool of Mentor Graphics International Journals of Advanced Research in Computer Science and Software Engineering Volume-7, Issue-6,pp 108-110, June 2017.

[30]   Poka Yoke for Filter Pin Detection in Nozzle Holder Body Using PLC International Journals of Advanced Research in Computer Science and Software Engineering Volume-7, Issue-6,pp 359-363, June 2017.

[31]   "Study And Implementation Of Phase Locked Loop", International Journal of Advanced Research in science and Engineering, Vol 6, Issue 7, pp 881-885, July 2017.

[32]   "Smart Grid Communication", International Journal for Research in Engineering Application & Management (IJREAM), ISSN : 2454-9150 Vol-04, Issue-04, July 2018.

[33]   "Handheld Device for Data Transfer between Two USB Supported Devices" International Journal for Research in Engineering Application & Management

[34]   Graphical User Interface for Electric Vehicle Charging Station, *International Journal of Innovative Technology and Exploring Engineering* (IJITEE), ISSN: 2278-3075, Volume-8 Issue-10, August 2019.

[35]   Industrial Parameters Monitoring System Based on Web Server, *International Journal of Innovative Technology and Exploring Engineering* (IJITEE), ISSN: 2278-3075, Volume-8 Issue-9, July 2019.

[36]   Design of 2kW DC Charger for Two Wheelers, *International Journal of Innovative Technology and Exploring Engineering* (IJITEE), ISSN: 2278-3075, Volume-8 Issue-10, August 2019.

[37]   Adaptive headlight system, International Journal of Vehicle Safety (IJVS), Vol 12, No 2, 2021

[38]   Pulsar Detection System using Radio Telescope, ADBU–Journal of Engineering Technology (AJET),ISSN: 2348-7305, Volume 11, Issue 2, June 2022

International Conference:

[1] "Artificial grape drying by optimized technique" International Conference, 2004 at COE, Pune.

[2] Real time motion tracking", International conference(2004)COE, Pune

[3] "Implementation of DSP Based five axis CNC Machine control" International conference ICSCI-2006, Pentagram Research center, Hyderabad.

[4] "Implementation of DSP Based five axis CNC Machine supporting card for interfacing high & low speed peripherals" International conference ICSCI-2006, Pentagram Research center, Hyderabad.

[5] Optimization of Fiber Bragg Grating Length for maximum reflectivity. IEEE, International conference on communications and Signal Processing ICCSP 2011, 978-1-4244-9799-7/11/$26.00 ©20 11 IEEE

[6] Optimization of Apodized Fiber Bragg Grating for Sensing Applications. ICEICE 2011 International conference on Electronics, information and communication system Engineering, M. B. M. Engineering college, JNV Univ., Jodhpur.

[7] Modeling and Characterization of Cascaded Long Period Fiber Gratings for ADM Application, International conference IMPACT2011, 978-1-4577-1107-7/11/$26.00 ©2011 IEEE

[8] Ultralong Period Reversible Fiber Gratings as a Pressure Sensor, ICAC2013, ICAC3 2013, CCIS 361, pp. 439–443, 2013. © Springer-Verlag Berlin Heidelberg 2013.

[9] Formation and Characterization of Mechanically Induced MZI in Optical Fiber" Emerging Technology Trends in Electronics, Communication and Networking (ET2ECN), 2014 2nd International Conference on DOI: 10.1109/ET2ECN.2014.7044954 , Publication Year: 2014 , Page(s): 1 - 3 978-1-4799-6986-9/14 ©2014 IEEE

[10]   "Electronic Tongue based liquid identification using LVQ Algorithm", IEEE International conference IC4-2015.

[11]   "Advanced Thermal overload protection for high tension motors using digital protection relays", IEEE International conference IC4-2015.

[12]   "Study Of RFID Authentication Protocols," *2018 Fourth International Conference on Computing Communication Control and Automation (ICCUBEA)*, Pune, India, 2018, pp. 1-4.

National journals

[1] "GSM in Railways" Telecommunications, the Indian Journal of telecommunication Vol/Issue-56/1, Jan-Feb 2006, India.

[2] E-Nose for gas detection at vehicle exhaust using supervised learning algorithm", International Journal of Emerging Trends & Technology in Computer Sciences(ISSN 2278-6856), Vol. 1, Issue 4, Nov-Dec 2012

[3] Implementation of Text Encryption and Decryption in Advanced Encryption Standard", ASM International Journal of Ongoing Research in Management and IT e-ISSN-2320-0065, Pune, 2013.

National Conference

[1] „Role of Internet in Technical Education" National Conference 2003, KCT Coimbatore.

[2] E-Nose for fire identification and classification", National conference on emerging trends in Electronics and Telecommunication Engineering, Watumull IEECT, Worli, Mumbai, 16-17 Sept. 2011.

[3] E-Nose for gas detection at vehicle exhaust using supervised back propagation learning algorithm, National conference Epgcon-2012, Pune.

[4] Secure speech transmission using audio steganography, National conference ePGCON 2012.

[5] "Implementation of Text Encryption and Decryption in Advanced Encryption Standard", ASM International Conference of Ongoing Research in Management and IT, Pune, 11, 12, 13 January, 2013.

[6] Advanced Encryption Standard Implementation Using DSP Processor and Code Composer Studio", National Conference ePGCON-2011 held at Pravaranagar College of Engineering at Loni on 20-21 March 2013.

[7] Fingerprint recognition using level 3 features National Conference ePGCON-2011 held at Pravaranagar College of Engineering at Loni on 20-21 March 2013.

Dr. Sunita A Patil (Ugale)