PROFORMA FOR BIO-DATA (to be uploaded)

1. Name and full correspondence address : Dr.Vandana B Patil

   "Sai Vision", flat no.202,Pimple Saudagar , Pune 411027

2. Email(s) and contact number(s): patil.vandana40@gmail.com
   vandana.patil@dypiu.ac.in
   9922916083

3. Institution: Pimpri Chinchwad University, Sate, Mohitewadi, Pune 412106

4. Date of Birth: 11/09/1982

5. Gender (M/F/T): F

6. Category Gen/SC/ST/OBC : Open

7. Whether differently abled (Yes/No): No

8. Academic Qualification (Undergraduate Onwards)

	Degree	Year	Subject	University/Institution	% of marks
1.	PhD	2017	Physics	Solapur University Solapur	-
2.	M.Sc	2007	Physics (Material science)	Shivaji University Kolhapur	**68.96 %**
3.	B.Sc	2005	Physics	Shivaji University Kolhapur	**77.60 %**
4.	H.S.C.	2000	Science	State Board	**65.17%**
5	S.S.C	1997	All	State Board	**60.93%**

9. **Ph.D thesis title**: Synthesis And Characterization of Nanostructured Undoped and doped Tungsten Trioxide for sensing And Supercapacitor Applications.

   Guide's Name : Dr. S.S Suryavanshi

   Institute/Organization/University: Solapur University Solapur

   Year of Award: 2017

10. Work experience (in chronological order).

S.No.	Positions held	Name of the Institute	From	To	Pay Scale
1.	Sr Assist. Prof	Department of Physics D Y Patil international University Akurdi Pune 44	1/08/2024	Until now	17600/- + 7000 AGP

2.	Assist. Prof.	Department of Physics Dr. D. Y. Patil Institute of Engineering, Management & Research	1/12/2017	30/07/2024	15600/- + 6000 AGP
3.	Lecturer.	Department of Physics Dr. D. Y. Patil Institute of Engineering, Management & Research,	1/6/2012	30/11/2017	36000/- 5th pay
4.	Lecturer	Department of Physics D Y Patil College of Engineering Akurdi Pune 44	10/07/2009	31/5/2012	20,000/- Consolidated per month.

11. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

S.No	Name of Award	Awarding Agency	Year
1.	Best Guide Award	Marathi Vidnyan Parishad	2024
2.	Best Mentor Award	Dassult system pvt Ltd Pune	2021
3.	Best Teacher Award	Dr. D. Y. Patil Institute of Engineering, Management & Research	2017
4.	Convener of Innovation conference sponsored by SPPU Pune	-	2015

12. Publications *(List of papers published in SCI Journals, in year wise descending order).*

S.No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	V. B. Patil	Development and applications of an affordable DIY optical spectrometer using a webcam	Journal of Optics	—	—	2025
2	V. B. Patil	Design and development of novel cooling arrangement for PV cell	JETIA – Journal of Engineering and Technology for Industrial Applications	—	—	2025
3	V. B. Patil	Spray deposition of nanostructured ZnO thin films for non-volatile resistive switching memory applications	Applied Physics A	129 / 7	401–410	2022
4	V. B. Patil	Morphology and crystal structure dependent pseudocapacitor performance of hydrated WO_3 nanostructures	Materials Advances	1	2492–2500	2020
5	V. B. Patil	Enhanced energy density and stability of self-assembled cauliflower of Pd doped monoclinic WO_3 nanostructure supercapacitor	Materials Chemistry and Physics	225 / 5	192–199	2019
6	V. B. Patil	Macroporous WO_3: Tunable morphology as a function of glycine concentration and its excellent acetone sensing performance	Ceramics International	25 / 141	409–414	2019
7	V. B. Patil	Enhanced NO_2 response of hydrothermally grown Ti doped WO_3 nanostructures	Journal of Materials Science: Materials in Electronics	28	1612–1619	2017
8	V. B. Patil	Using motion simulation in CAD in the concept design phase for harnessing energy	International Journal for Scientific Research & Development	—	—	2017

		from road traffic				
9	V. B. Patil	Effect of annealing on the properties of CTAB assisted lead tungstate	Materials Letters	181	350–353	2016
10	V. B. Patil	High performance single crystalline $PbWO_4$ nanorod field effect transistor	Journal of Materials Science: Materials in Electronics	26	3685–3689	2015
11	V. B. Patil	Oxalic acid induced hydrothermal synthesis of single crystalline tungsten oxide nanorods	Journal of Alloys and Compounds	590	283–288	2014
12	V. B. Patil	Spray deposited superhydrophobic ZnO coatings via seed assisted growth	Surface and Coatings Technology	206 / 6	1336–1341	2011
13	V. B. Patil	Photoluminescence and photoelectrochemical properties of nanocrystalline ZnO thin films synthesized by spray pyrolysis technique	Applied Surface Science	257	10789–10794	2011
14	V. B. Patil	Development and applications of an affordable DIY optical spectrometer using a webcam	Journal of Optics	025	14-17	2025
15	V. B. Patil	Unlocking supercapacitive potential: hydrothermal growth of Ti-Doped WO3 nanoflakes on glassy carbon electrodes	Interaction	246:114	23-35	2025

13. Detail of patents.

S.No	Patent Title	Name of Applicant(s)	Patent No.	Award Date	Agency/Country	Status
1	An Intelligent Management for Electricity Charge Settlement for Energy Storage Power Station Based on Blockchain & Machine Learning	Dr. Vandana B. Patil, Dr. Ankur Gupta	2022/11105	29/01/2024	South African	Granted
2	Smart Pen to Detect Human Mental Focus & Concentration with Pressure Sensors on the Grip Using Machine Learning	Vandana B. Patil, Ankur Gupta	20 2022 100 433.1	31/02/2022	German	Granted
3	A Smart Trolley	Vandana B. Patil, Sunil Dambhare	202221007373	27/03/2024	Indian	Granted
4	Portable Hitch Mounted Cargo Carrier	Vandana B. Patil, Sunil Dambhare	364402-001	29/04/2024	Indian	Granted
5	An Artificial Intelligence Based Biomedical Sensing System for High Throughput Biomolecule Testing	Vandana B. Patil, Mukesh Soni	202011019959 A	30/10/2021	Indian	Published
6	A System to Harvest Electrical Energy	Vandana B. Patil, Sunil Dambhare	202221007222	10/02/2022	Indian	Published
7	A Portable Solar Lamp	Vandana B. Patil, Sunil Dambhare	202221007372	11/02/2022	Indian	Published

8.	A self Adapting robotic device and method thereof	Vandana B. Patil, Charles Priya, Patil Anupama	202521017632	27/02/2025	Indian	Published
9.	A method for synthesis of tungsten trioxide nanoparticles	Vandana B Patil	202421094359	01/04/2024	Indian	Published
10.	A Scientific Image Processing Methodology for a Particular Focus on Single (Copyright)	Vandana B. Patil, Ankur Gupta	L-128033/2023	05/07/2023	Indian	Granted

14. Books/Reports/Chapters/General articles etc.

S.No	Title	Author's Name	Publisher	Year of Publication
1	Nanostructured materials and design concept for electronic nose	K. V. Patil, R. S. Redekar, A. A. Bhoite, V. B. Patil, K. V. Gurav, N. L. Tarwal	Springer	2024
2	Vikshit Bharat 2047	V. B. Patil, Mr. Rohit Ade	Redshine (UK)	2024
3	Performance and Security Issues Management During Online Classes	V. B. Patil, Ankur Gupta	Wiley (10.1002/9781119867647)	2023
4	Blockchain, IoT, and AI Technologies for Supply Chain Management	V. B. Patil, Ankur Gupta	CRC Press, Taylor & Francis	2023
5	NEP-2020	V. B. Patil, Mr. Rohit Ade	Redshine (UK)	2023
6	Innovation, Business to Society	V. B. Patil, Mr. Arupkumar Sarkar	Redshine (UK)	2022
7	Engineering Physics	V. B. Patil, Alka Sawaikar	TechKnowledge Publication	2022

15. Any other Information (maximum 500 words)

I possess strong research expertise in the synthesis and development of advanced semiconductor materials, 2D layered systems, and heterojunction thin films for applications in photoelectrochemical (PEC) devices, gas sensing, supercapacitors, electronic devices, and IoT-integrated sensing technologies. My work spans multiple nano-/thin-film fabrication techniques, including Spray Pyrolysis, Hydrothermal synthesis, Chemical Vapor Deposition (CVD), Electron Beam Evaporation (EBE), and the SILAR method, enabling scalable deposition of high-quality materials on glass, silicon, and FTO substrates.My research involves the synthesis and engineering of a diverse class of functional materials, including TiO_2, ZnO, Sn-doped ZnO, CuO, Graphene, Carbon Nanotubes (CNTs), WO_3, CdS, and CdTe**,** along with thin-film systems such as CIGS. I have extensive experience in post-deposition annealing, optimization, and characterization using XRD, FESEM, EDAX, UV–Vis spectroscopy, PL, and I–V measurements. My studies consistently demonstrate improved crystallinity, uniform grain morphology, excellent stoichiometry, direct-allowed optical transitions, and enhanced device performance through tailored processing parameters.I have developed multiple PEC and optoelectronic device structures using CdS and CdTe thin films, along with oxide-based architectures such as TiO_2, ZnO, and WO_3**,** demonstrating significant improvements in photocurrent density, charge transport, and overall conversion efficiency. My work further includes fabricating ZnO-based photoluminescent and resistive switching devices, $PbWO_4$ nanorod FETs, and functional coatings deposited via spray pyrolysis and other scalable techniques.Beyond materials synthesis, I work at the intersection **of** nanomaterials, AI, IoT-enabled sensing, and device engineering**,** contributing to translational solutions for environmental, industrial, and biomedical applications. I hold several granted patents (India, Germany, South Africa) in smart sensing, energy systems, and AI-enabled diagnostic technologies. My publications in reputed SCI journals and book chapters with Springer, Wiley, CRC Press, and Redshine (UK) reflect my sustained contributions to nanomaterials research and innovation.With multiple national awards and extensive experience in innovation leadership, thin-film technology, and advanced device fabrication, I continue to pursue high-impact research that integrates materials science with real-world technological applications.