



# AISSMS

COLLEGE OF ENGINEERING

ज्ञानम् सकलजनहिताय

An Autonomous Institute Affiliated with  
Savitribai Phule Pune University

Accredited by NAAC with "A+" Grade | NBA - 7 UG Programmes



## Department of First Year Engineering

### Faculty Profile

**Dr T M Nimbalkar**

Ph.D. (Physics)

Assistant Professor

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🔗 <https://scholar.google.com/citations?user=ocn1LBkAAAJ&hl=en>

🔗 <https://www.webofscience.com/wos/author/record/NRY-2164-2025>

🔗 <https://www.linkedin.com/in/dr-tanaji-nimbalkar-9b885125b>



### Research Areas / Areas of Interest

Materials Sciences, Gas Sensors, Bandgap Engineering, Energy storage, Thin Films.

### Personal Details

**Date of Birth :** 01 / 04 / 1992

**Domicile:** Maharashtra

**Gender :** Male

**Blood Group:** A<sup>+</sup>ve

**Contact Details:** A/P-Lakhewadi Tal-Indapur Dist-Pune Pin Code – 413103.

## Academic Background

Sr. No.	Qualification	Specialization	University	Class/Grade	Year of Passing
1	Ph.D.	Physics	PAH Solapur University, Solapur	--	August 2024
2	S.E.T.	Physics	Savitribai Phule Pune University, Pune	--	April 2021
3	M.Sc.	Physics	Solapur University, Solapur	First class	June 2017
4	B.Sc.	Physics	Solapur University, Solapur	Distinction	May 2015
4	B.Ed.	Physics	PAH Solapur University, Solapur	Second class	June 2019

## Work Experience

Sr. No.	Type of Experience	Years	Months
1	Teaching	03	06
2	Research	06	03
3	Industry	00	00
4	Others	--	--
<b>Total</b>		<b>09</b>	<b>09</b>

## Subjects / Courses Taught

Sr. No.	Subject	UG/PG	Class (FE/SE/TE/BE/ME)	No of times Subject Taught
1	Engineering Physics	UG	FE	01
2	Mechanics and Properties of Matter	UG	B. Sc. I	02
3	Electricity, Magnetism and Basic Electronics	UG	B. Sc. I	01
4	Energy Resources and Conservation	UG	B. Sc. I	01
5	Solar Energy and Solar Technology	UG	B. Sc. I	01
6	General Physics and Sound	UG	B. Sc. II	01
7	Mathematical Physics and Statistical Physics	UG	B. Sc. III	01
8	Solid State Physics	UG	B. Sc. III	01
9	Materials Science	UG	B. Sc. III	01

## Research Publications

	National	International	State	SCI/ Scopus Indexed	UGC Approved
Journals	00	09	00	09	00
Conferences	01	02	00	00	02

## Publication Details (Journals)

Sr. No	Document Details	Authors	Year	Source Details	ISBN/ISSN	Publisher
1	Zn mixed CeO <sub>2</sub> nanoparticles: Enhancement of NO <sub>2</sub> gas sensing performance	<b>Tanaji M. Nimbalkar,</b> Sujit A. Kadam, Yuan-Ron Ma, Atul C. Khot, Manickam Selvaraj, Zubair Ahmad and Vikas B. Patil	2024	Journal of Alloys and Compounds	0925-8388	Elsevier
2	Tailoring Zn mixed WO <sub>3</sub> nanoflowers for highly efficient NO <sub>2</sub> gas detection	<b>Tanaji M. Nimbalkar,</b> Sujit A. Kadam, Yuan-Ron Ma, Manickam Selvaraj and Vikas B. Patil	2024	Ceramic International	1873-3956	Elsevier
3	Ultra-Responsive and Highly Sensitive 1D ZnO Nanotubes For Detecting Perilous Low Levels of NO <sub>2</sub> Gas	Prasad R. Godse, Sujit A. Kadam, <b>Tanaji M. Nimbalkar,</b> Yogesh M. Jadhav, Yuvraj Jadhao, Yuan-Ron Ma, Manickam Selvaraj and Vikas B. Patil	2024	Materials Advances	1873 - 3077	RSC Advances

4	Simple chemical synthesis of $\text{CeO}_2$ nanoparticles for toxic $\text{NO}_2$ gas detection.	<b>Tanaji M. Nimbalkar,</b> Yogesh M. Jadhav, Reshma N. Dhanawade, Nanasaheb S. Pawar, Avinash C. Molane, Shivani S. Gavande, Ganesh T. Chavan, Chan- Wook Jeon, Shrikrishna D. Sartale, and Vikas B. Patil	2023	Journal of Alloys and Compounds	1873 - 4669	Elsevier
5	Highly Sensitive and Selective $\text{PAni-CeO}_2$ Nanohybrid for Detection of $\text{NH}_3$ Biomarker at Room Temperature.	Reshma N. Dhanawade Nanasaheb S. Pawar, Manik A. Chougule, Gajanan M. Hingangavkar, Yogesh M. Jadhav, <b>Tanaji M. Nimbalkar,</b> Yuvraj H. Navale, Ganesh T. Chavan, Chan- Wook Jeon.	2023	Journal of Materials Science: Materials in Electronics (JMSE)	0957-4522	Wiley-VCH
6	Influence of the Camphor Sulphonic Acid (CSA) Intercalation on the Micro-structural and Gas Sensing Properties of Polyaniline $\text{CeO}_2$ Nanohybrid for $\text{NH}_3$ Gas Detection.	Reshma N. Dhanawade, Nanasaheb S. Pawar, Manik A. Chougule, Gajanan M. Hingangavkar, <b>Tanaji M. Nimbalkar,</b> Ganesh T. Chavan,	2023	Chemistry Select	2365 - 6549	Wiley-VCH

		Chan-Wook Jeon and Vikas B. Patil				
7	Electrospun Fabric Tin Oxide 1-D Nanofibers: Approach Towards Flexible Electrode for Supercapacitor Application	Avinash C. Molane, Shivani S. Gavande, <b>Tanaji M. Nimbalkar,</b> Amol S. Salunkhe, Pravin D. More and Vikas B. Patil	2023	Chemistry Select	2365- 6549	Wiley-VCH
8	Hydrothermally engineered WO <sub>3</sub> nanoflowers: A selective detection towards toxic NO <sub>2</sub> gas	Gajanan M. Hingangavkar, Yuvraj H. Navale, <b>Tanaji M. Nimbalkar,</b> Ramesh N. Mulik, Vikas B. Patil.	2022	Sensor and Actuators: B. Chemical	1873 - 3077	Elsevier
9	Impact of various aqueous electrolytes on the electrochemical performance of Zinc-doped $\delta$ - MnO <sub>2</sub> nanowires as electrode material for supercapacitor device applications	Arpana E. Kore, Ekanath K. Kore, Shivani S. Gavande, Avinash C. Molane, Tanaji M. Nimbalkar, Ramesh N. Mulika, Manickam Selvaraj, Mohammed A. Assiri, Vikas B. Patil	2025	Journal of Alloys and Compounds	0925- 8388	Elsevier

## Publication Details (Conferences)

Sr. No	Document Details	Authors	Year	Conference Details	ISBN	Organized by
1	Development of ZnO-CeO <sub>2</sub> mixed metal oxides for environment pollutant monitoring	<b>Tanaji M. Nimbalkar,</b> Vikas B. Patil	2024	International Conference on “Green Sustainable Technology and Managment (ICGSTM-2024)”	--	INTI International university Malaysia
2	Synthesis of WO <sub>3</sub> thin film for detection of toxic NO <sub>2</sub> gas	<b>T. M. Nimbalkar,</b> N. S. Pawar , R. N. Dhanawade , Y. M. Jadhav , A. C. Molane , S. S. Gavande, M. A. Chougule , R. N. Mulik , V. B. Patil	2023	Two Day International Conference on “Innovation in Smart and Techno materials (ICISTM-2023)”	978-81-956739-7-1	Sadguru Gadage Maharaj College, Karad
3	Synthesis of CeO <sub>2</sub> thin film for detection of toxic NO <sub>2</sub> gas	<b>T. M. Nimbalka,</b> R. N. Dhanawade, A. C. Molane, Y. H. Navale , V. B. Patil	2022	National Conference on “Emerging Trends in chemistry”	---	Shankarrao Mohite Mahavidyalaya, Akluj

### PhD / ME / BE Student Guided for Project

Level	Ph.D.	M.E. (PG)	B.E. (UG)
No. of Student Guided	-	-	-

### Professional Memberships

Professional Body	Level (National/International)	Type (Fellow/Life/Annual)	Membership No.
Royal Society of Chemistry	International	Life	-
-	-	-	-

### Patents / IPR Filed / Granted

Sr. No	Investigator Details	Title	Year	Status (Filed/Granted)	Details
1	Dr. Vikas Baburao Patil, Dr. Mrunalini Milind Fadnavis <b>Mr. Tanaji Mahadev Nimbalkar</b>	A Process for Synthesis of Cerium Oxide Nanomaterials for Gas Sensing.	2023	Granted	<b>452559</b>



**Book Chapter Published**

Sr. No	Title	Name of the Publisher	ISBN Number
1	High Performance CeO <sub>2</sub> Nanoparticles for Real-time NO <sub>2</sub> Detection	Springer Nature Switzerland	978-3-031 34648-4
2	Manganese Oxide Nanofibers for High Performance Supercapacitors	Springer Nature Switzerland	978-3-031 34648-4

**Research Grants Received**

Sr. No	Program	Duration	Funding Agency	Grant Amount
1	-	-	-	-

**Details of Workshop / STTP / FDP / Seminar / Conferences Organized**

Sr. No	Title	Type	Duration	Level (State/National/ International)	Sponsoring Agency
1	-	-	-	-	-

**Contribution as Resource Person**

Sr. No.	Place/Organization	Topic	Level(National/Int/State/ Regional)	Date
1	Rayat Shikshan Sashta, Karmaveer Bhaurao Patil Mahavidyalaya, Pandharpur	X ray Analysis	Regional	17 <sup>th</sup> December 2024

## Details of Workshop / STTP / FDP / Conferences Attended

Sr. No.	Title	Type	Duration	Organizer	Sponsoring Agency
1	Recent Trend in Advance Materials	Conference	2023	School of Physical Science, KLE Society's P C Jabin Science College, Hubli, Karnataka	School of Physical Science, KLE Society's P C Jabin Science College, Hubli, Karnataka
2	Recent Trend in Nanomaterials and Its Applications (RTNA),	Conference	2023	Department of Physics in collaboration with IQAC, Vidnyan Mahavidyalaya, Sangola	Indian Mathematical Society
3	Recent Trend in Nanomaterials and Its Applications (RTNA)	Conference	2021	Department of Physics in collaboration with IQAC, Vidnyan Mahavidyalaya, Sangola	Department of Physics in collaboration with IQAC, Vidnyan Mahavidyalaya, Sangola
4	National e-Conference on Materials for Emerging Technologies-(MET-2021)	Conference	2021	School of Physical Sciences, P.A.H. Solapur University, Solapur	School of Physical Sciences, P.A.H. Solapur University, Solapur
5	Advanced Material and Applications (AMA-2021)	Conference	2021	Department of Applied Sciences and Humanities, Maharshi Parshuram College of Engineering, Velneswar	Department of Applied Sciences and Humanities, Maharshi Parshuram College of Engineering, Velneswar
6	Advances in Materials Science	Conference	2016	Post-graduate Department of Physics, Raje Ramrao Mahavidyalaya, Jath	Post-graduate Department of Physics, Raje Ramrao Mahavidyalaya, Jath

7	Advances in Wireless Sensor Network and Its Applications	Conference	2014	Department of Electronics Shankarrao Mohite Mahavidyalaya, Akluj	Department of Electronics Shankarrao Mohite Mahavidyalaya, Akluj
8	Stories from materials Science playground and practical applications	Webinar	2021	School of Physical and Chemical Sciences in association with IQAC, P. A. H. Solapur University, Solapur	School of Physical and Chemical Sciences in association with IQAC, P. A. H. Solapur University, Solapur
9	Futuristic Materials for Energy Storage Devices	Webinar	2021	Department of physics and IQAC, K. M. C. College, Khopoli	Department of physics and IQAC, K. M. C. College, Khopoli
10	Nanomaterial's and its Applications	Seminar	2017	Department of Physics and Chemistry, Vidnyan Mahavidyalaya Sangola	Department of Physics and Chemistry, Vidnyan Mahavidyalaya Sangola
11	National Level Virtual Seminar on Research Methodology	Workshop	2021	Department of Physics and Electronics, K. L. E. Society's Jagadguru Tontadarya College, Gadag, Karnataka	Department of Physics and Electronics, K. L. E. Society's Jagadguru Tontadarya College, Gadag, Karnataka
12	ENERGY CONSERVATION	Workshop	2023	Internal Quality Assurance Cell, Dayanand College of Commerce, Latur	Internal Quality Assurance Cell, Dayanand College of Commerce, Latur
13	National Intellectual Property Awareness Mission (NIPAM)	Workshop	2023	Government of India and Office of Controller General of Patents, Designs and Trade Marks	Government of India and Office of Controller General of Patents, Designs and Trade Marks

11	One Day National Conference on Intellectual Property Right (NCIPR-23)	Workshop	2023	Government of India and Office of Controller General of Patents, Designs and Trade Marks	Government of India and Office of Controller General of Patents, Designs and Trade Marks
12	One Day National Conference on Intellectual Property Right (NCIPR-23)	Seminar	2023	MIT College of Railway Engineering and Research, Barshi in collaboration with, PAH Solapur University, Solapur	MIT College of Railway Engineering and Research, Barshi in collaboration with, PAH Solapur University, Solapur
13	Intellectual Property and Patent Drafting”	Workshop	2022	UDDYAM-PAHSUS Foundation Incubation Center, Solapur and School of Chemical Sciences, PAH Solapur University	UDDYAM-PAHSUS Foundation Incubation Center, Solapur and School of Chemical Sciences, PAH Solapur University
14	Intellectual Property Rights and Entrepreneurship Development	Workshop	2023	Internal Quality Assurance Cells of the Collaborating Institutions, Nagpur	Internal Quality Assurance Cells of the Collaborating Institutions, Nagpur
15	Recent Advances On material Characterizations	FDP	28/08/2022 to 03/09/2022=06 day	Department of Physics, Krishna University, Machilipatnam	Department of Physics, Krishna University, Machilipatnam

16	National Science Day-2024	Workshop	28/08/2024 to 03/09/2024=06 day	P.A.H Solapur University, Solapur, Research and Development Cell	National council of Science and Technology Communications, DST, Govt. of india and Rajiv Gandhi Science and Technology Commission, Govt. of Maharashtra
19	National Science Day Talk Show Competition	Symposium	28/08/2024 to 03/09/2024=06 day	P.A.H Solapur University, Solapur, Research and Development Cell	National council of Science and Technology Communications, DST, Govt. of india and Rajiv Gandhi Science and Technology Commission, Govt. of Maharashtra
20	Online Physics Quiz	Quiz Compitation	2021	Department of Physics ARACS College, Vaibhavwadi	Department of Physics ARACS College, Vaibhavwadi
21	National Education Policy-2020	Symposium	2021	Department of applied Sciences and Humanities (ASH) Department of VPM'S Maharshi Parshuram College of Engineering, Velneshwar	Department of applied Sciences and Humanities (ASH) Department of VPM'S Maharshi Parshuram College of Engineering, Velneshwar

22	UNDERSTANDING THE NEW NEP GUIDELINES FOR BETTER IMPLEMENTATION	Webinar	2023	VPM's R. Z. Shah College of Arts, Science and Commerce Mumbai	VPM's R. Z. Shah College of Arts, Science and Commerce Mumbai
23	Gender equality and Women Empowerment	Conference	2023	PVG'S College of Engineering and Technology and G K Pate (Wani) Institute of Management in association with Savitribai Phule Pune University and Rajasthan Sociological association, Pune	PVG'S College of Engineering and Technology and G K Pate (Wani) Institute of Management in association with Savitribai Phule Pune University and Rajasthan Sociological association, Pune
24	Human Rights and Humanizing Societies	Workshop	16/12/2016 to 16/12/2016 = 01 day	Solapur University, Solapur & National Human Rights Commission New Delhi	Solapur University, Solapur & National Human Rights Commission New Delhi
25	Nanotechnology: A Path Forward To Address Global Challenges	Webinar	2024	Department of Physics & IQAC, Balwant College Vita	Department of Physics & IQAC, Balwant College Vita
26	'NEW Binary System of Quality Assurance by NAAC: Insights, Awareness and Documentation in Higher Education	Seminar	2025	SHRI P. L. SHROFF COLLEGE OF ARTS AND COMMERCE, CHINCHANI	SHRI P. L. SHROFF COLLEGE OF ARTS AND COMMERCE, CHINCHANI

## Major Professional Responsibilities Handled

S. No.	Role and Responsibilities
1	Worked as a “Member, FE Admission Committee, AISSMS COE”
2	Worked as a “Member, FE Induction Program”
3	Working as a “Guardian Faculty Member, FE Students”

## Awards Received

Sr. No.	Awards
-	-

**Declaration:** I hereby declare that all the statement made above are correct to the best of my knowledge and belief.



**Dr T M Nimbalkar**