

## Curriculum Vitae

**Name: Dr. Pravin Mahadeo Kharade**

A/P: Wadhegaon

Tal- Sangola,

Dist- Solapur (MH), India

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**Date of birth:** 17/07/1988

**Caste:** Open (Hindu-Maratha)

Category: SEBC

**Nationality:** Indian



### GENERAL INFORMATION:

1) **Sex:** Male

2) **Marital status:** Married

3) **Blood group:** O +ve

3) **Career Objective:** Research & Teaching

4) **Languages Known:** English, Hindi and Marathi

5) **Hobbies & interests:** Reading, Listening to Music, Playing cricket

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### EDUCATIONAL QUALIFICATION

<b>Exam. Passed</b>	<b>Year of Passing</b>	<b>Board / University</b>	<b>Subject Offered</b>	<b>% of Marks</b>	<b>Remark</b>
Ph.D.	2017	Solapur University, Solapur	Physics	--	Awarded
M. Sc.	2011	Solapur University, Solapur	Physics	56.83	Second class
B.Sc.	2009	Solapur University, Solapur	Physics	70	First class with distinction
H. Sc.	2006	Pune board	PCMB	58.00	Second class
S.S.C.	2004	Pune board	All	73.73	First class with distinction

**# Title of Thesis:- “SYNTHESIS AND CHARACTERIZATION OF POLYANILINE, POLYPYRROLE,  $MnO_2$ ,  $Cr_2O_3$  AND THEIR BI-LAYER HETEROSTRUCTURES FOR SUPERCAPACITOR APPLICATION”.**

**Guide Name: Dr. D. J. Salunkhe**  
**Nano-Composite Research Laboratory,**  
**Karmaveer Bhaurao Patil Mahavidyalaya, Pandharpur**

**Research Experience:**

- ❖ **Synthesis of polymer and metal oxide thin films (2017 to date)**
- ❖ **Teaching experience: 11 years**
  - Two year teaching experience at Vidnyan Mahavidyalaya, Sangola (**During 2011-12 and 2012-2013**)
  - Four year teaching experience at Sangola College, Sangola (**During 2013-14 to 2016-2017**)
  - Seven years teaching experience at Shankarrao Mohite Mahavidyalaya, Akhuj (**During 2017-2018 to 30<sup>th</sup> April 2024**)
  - One year teaching experience at Fabtech Technical Campus College of Engineering and Research, Sangola (**During 18<sup>th</sup> sept. to 30<sup>th</sup> June 2025**)

❖ **List of Publications**

A)	Paper Published / Accepted to the cited National / International Journals
<b>2025</b>	
[1]	<b>P.M. Kharade</b> , D.J. Salunkhe, Review Article on Supercapacitors: Emerging Electrodes and Materials, Int. J. Sci. R. Tech., (2025)2:2,70-76.
<b>2024</b>	
[2]	<b>P.M. Kharade</b> , D.J. Salunkhe, A Theoretical Research paper on MXene-Based Supercapacitors: Compressive Study, International Journal of Scientific Research in Engineering and Management, (2024)8:11,1-5.
<b>2022</b>	
[3]	<b>P. M. Kharade</b> , J. V. Thombare, S. S. Dhasade, S. S. Deokar, D. J. Salunkhe, M. S. Tamboli, S.S. Patil, Spongy-Network-like Polyaniline Thin Films as Electrodes for a Supercapacitor, Micro

	(2022) 2, 541–548.
[4]	Swati D. Patil, Sagar. M. Mane, <b>Pravin M. Kharade</b> , Jagannath V. Thombare, Rajendra S. Gaikwad, Manish P. Tirpude, Jae Cheol Shin, Shankar S. Dhasade, and Hyo Jin Kim, FTIR and Electrical Properties of Cr Substituted $\text{Li}_{0.5}\text{Fe}_{2.5-x}\text{O}_4$ Synthesized Using Sol-Gel Auto Combustion, ECS Journal of Solid State Science and Technology (2022) 11 054010.
[5]	<b>P. M. Kharade</b> , J. V. Thombare, S. S. Dhasade, S. D. Patil, P .B. Abhange, D. J. Salunkhe, Electrodeposited Nanoleaves (NLs) like $\text{Mn}_3\text{O}_4$ thin film for electrochemical supercapacitor, International Journal of Scientific Research in Science and Technology (2022)9:30-36.
<b>2021</b>	
[6]	<b>P. M. Kharade</b> , J. V. Thombare, S. S. Dhasade, P. B. Abhange, R.S. Gaikwad, S. D. Patil, D. J. Salunkhe, Structural, Morphological and Supercapacitive Performance of Electrodeposited PPy/ $\text{Co}_3\text{O}_4$ Thin Film, International Journal of Scientific Research in Science and Technology (2021)8:29-33.
[7]	<b>P. M. Kharade</b> , J. V. Thombare, S. D. Patil, S.S. Dhasade, P.B. Abhange, R. S. Gaikwad, C.S. Pawar, S. S. Deokar, D.J. Salunkhe, Electrochemical Synthesis of Manganese Oxide Thin Film for Super Capacitor, International Journal of Scientific Research in Science and Technology (2021)9:87-90.
[8]	<b>P. M. Kharade</b> , A.R. Babar, J. V. Thombare, S. D. Patil, S.D. Chavan, D.J. Salunkhe, Structural and Wettability Study of Electrodeposited NiO Thin Film, International Journal of Scientific Research in Science and Technology (2021)9:80-82.
[9]	Swati Patil, <b>P. M. Kharade</b> , J. V. Thombare, R.S. Gaikwad, S. M. Mane, S. S. Dhasade, Effect of Particle Size on the Specific Surface Area, Density, and Porosity of $\text{Mg}_{0.8}\text{Zn}_{0.2}\text{Cr}_x\text{Fe}_{2-x}\text{O}_4$ , International Journal of Scientific Research in Science and Technology (2021) 9:121-126.
[10]	Swati Patil, <b>P. M. Kharade</b> , J. V. Thombare, R.S. Gaikwad, S. M. Mane, S. S. Dhasade, FTIR and VSM Study of Sol-Gel Synthesized Nanoparticles of $\text{Mg}_{0.8}\text{Zn}_{0.2}\text{Cr}_x\text{Fe}_{2-x}\text{O}_4$ , International Journal of Scientific Research in Science and Technology (2021) 9:127-132.
<b>2018</b>	
[11]	<b>P.M. Kharade</b> , J.V. Thombare, A.R. Babar, R.N. Bulakhe, S.B. Kulkarni, D.J. Salunkhe, Electrodeposited nanoflakes like hydrophilic $\text{Co}_3\text{O}_4$ as a supercapacitor electrode, Journal of Physics and Chemistry of Solids (2018)120:207-210.
[12]	<b>P.M. Kharade</b> , A.R. Babar, S.S.Dhasade, B.R.Karche, D.J.

	Salunkhe, Electrochemical study of galvanostatically deposited Cr <sub>2</sub> O <sub>3</sub> thin film for supercapacitor, Material Focus (2018)7:342-345.
[13]	<b>P.M. Kharade</b> , S.S. Mane, D.J. Salunkhe, Electrochemical Study of Galvanostatically Deposited Polypyrrole Thin Film For Supercapacitor, International Journal of Multifaceted and Multilingual Studies (2018) V(IV):61-63.
[14]	J.V. Thombare, B.B. Navale, A.R. Babar, <b>P.M. Kharade</b> , B.R. Karche, Optical Properties of Chemically Synthesized Polypyrrole Thin Films, International Journal of Multifaceted and Multilingual Studies (2018) V(IV):64-66.
[15]	<b>P.M. Kharade</b> , A.R. Babar, T.R. Mane, A.N. Tarale, D.S. Bobade, B.R. Karche, S.B. Kulkarni, D.J. Salunkhe, Electrodeposited MnO <sub>2</sub> thin film as a supercapacitor electrode, International Journal of Multifaceted and Multilingual Studies (2018)V(II):68-71.
[16]	S.S. Mane, S.G. Chavan, <b>P.M. Kharade</b> , S.D. Chavan, D.J. Salunkhe, Complex Impedance Spectroscopy of LSMO-(BCT-BJT) Multiferroic Composite Materials in Mixed Phases, International Journal of Multifaceted and Multilingual Studies (2018)V(II):47-51.
<b>2017</b>	
[17]	<b>P.M.Kharade</b> , J.V.Thombare, S.L.Kadam, S.B.Kulkarni, D.J.Salunkhe, Layered PPy/Cr <sub>2</sub> O <sub>3</sub> as a supercapacitor electrode with improved electrochemical performance, Journal of materials Science: Materials in Electronics, 28(2017) 17908-17916.
[18]	<b>Pravin M. Kharade</b> , S.B Kulkarni, Dadasaheb J. Salunkhe, Nanoflakes like hydrophilic Mn <sub>2</sub> O <sub>3</sub> thin film as a supercapacitor electrode, Chinese journal of Physics, 55 (2017) 1684-1689.
[19]	<b>P.M. Kharade</b> , S.S. Mane, S.D. Chavan, S.B. Kulkarni and D.J. Salunkhe, Nanoflakes MnO <sub>2</sub> Thin Film as a Supercapacitor Electrode, Techno-Societal (2016) 531-537.
<b>2016</b>	
[20]	<b>P. M. Kharade</b> , S. M. Mane, S. B. Kulkarni, P. B. Joshi, D. J. Salunkhe, Ground nut seed like hydrophilic polypyrrole based thin film as a supercapacitor electrode, J. Mater. Sci.: Mater. Electron., 27 (2016) 3499-3505.
[21]	<b>P.M.Kharade</b> , S.G.Chavan, S.S.Mane, S.B.Kulkarni, P. B.Joshi, D.J.Salunkhe, Synthesis and Characterization of Galvanostatically Deposited Cr <sub>2</sub> O <sub>3</sub> , Mn <sub>3</sub> O <sub>4</sub> , Cr <sub>2</sub> O <sub>3</sub> /Mn <sub>3</sub> O <sub>4</sub> Layered Composite Thin Film for Supercapacitor Application, Journal of the Chinese Advanced Materials Society (2016) 4 (1): 1-12.
[22]	S.G. Chavan, A.N.Tarale, <b>P.M.Kharade</b> , S. B. Kulkarni, D. J. Salunkhe, Characterization of Microwave Sintered Barium Strontium Titanate Nanoparticles Prepared By Hydrothermal Method, Journal

	of Chinese Advanced Materials Society, 5(1) (2016) 47-56.
<b>2015</b>	
[23]	S.D. Chavan, <b>P.M. Kharade</b> , S.G. Chavan, D.J. Salunkhe, Ferroelectric and Impedance Study of $Ba_{0.95}Ca_{0.05}Ti_{0.90}Zr_{0.10}O_3$ Ceramic, Review of Research, 4 (2015)1-7.
[24]	S.D. Chavan, S.G. Chavan, <b>P.M. Kharade</b> , D.J. Salunkhe, Investigation on Dielectric Properties Lead Free $Ba_{0.95}Ca_{0.05}Zr_{0.075}Ti_{0.925}O_3$ Indian Streams Research Journal, 5 (2015) 1-4.
<b>2014</b>	
[25]	<b>P.M. Kharade</b> , S.G. Chavan, D.J. Salunkhe, P.B. Joshi, S.M. Mane, S.B. Kulkarni, Synthesis and characterization of PANI/MnO <sub>2</sub> bi-layered electrode and its electrochemical supercapacitor properties, Journal of Materials Research Bulletin (2014): 52 37–41.
<b>B)</b>	<b>Oral Presentations</b>
[1]	International Conference on Techno-Societal SVERIs College of Engineering, Pandharpur, 2016
[2]	National Conference on Recent Trends in Nanomaterials and its applications (RTNA), at Vidnyan Mahavidyalaya, Sangola, 2017

❖ **Papers Presented/Accepted at National and International Conferences Seminars/Symposia :**

<b>Participation/Poster presentation at National/International Conferences/Seminars/Workshops</b>	
[1]	“Synthesis and characterization of PANI/Cr <sub>2</sub> O <sub>3</sub> composite electrode and its electrochemical supercapacitor properties”, <b>P.M. Kharade</b> , S.G. Chavan, P.B. Joshi, S.M. Mane, Kulkarni S.B., D.J. Salunkhe, ICPM-MDF- 2014 Jan. 13-15, 2014, Shivaji University, Kolhapur.
[2]	“Dielectric, Magnetoelctric and Magnetodielectric properties of $Ba_{0.95}Sr_{0.05}Ti_{(1-x)}Co_{(x)}O_3$ compositions”, Dhumal S.G, Tarale A. N, Mane S. S, <b>Kharade P.M</b> , Chavan S.G, Chavan S.D, Joshi P. B. and Salunkhe D. J, ICPM-MDF- 2014 Jan. 13-15, 2014, Shivaji University, Kolhapur.
[3]	“Synthesis and Characterization of Mn <sub>2</sub> O <sub>3</sub> Thin Film Electrode and its Electrochemical Supercapacitor Properties”, <b>Kharade P. M</b> , Tarale A.N, Joshi P. B, Mane S. M, Kulkarni S. B, Salunkhe D. J, RTNA-2015 (Jan.23-24,2015), Sangola College, Sangola, Solapur.
[4]	“Synthesis and Characterization of Mn <sub>3</sub> O <sub>4</sub> Thin Film Electrode and its Electrochemical Supercapacitor Properties” <b>Kharade P. M</b> , Chavan S. G, Tarale A.N, Mane S. S, Joshi P. B, Mane S. M, Kulkarni S. B, Salunkhe D. J, ICFMNCC-2015 (Mar.9-11,2015), K.B.P. College,

	Pandharpur, Solapur.
[5]	“Synthesis and Characterization of 0.5[Ba <sub>0.7</sub> Ca <sub>0.3</sub> TiO <sub>3</sub> ]-0.5[BaZr <sub>0.2</sub> Ti <sub>0.8</sub> O <sub>3</sub> ] lead free Mixed ceramic compositions at the morphotropic phase boundary”, S. S. Mane, S. G. Chavan, A. N. Tarale, <b>P. M. Kharade</b> , P. B. Joshi, D. J. Salunkhe, ICFMNCC-2015 (Mar.9-11, 2015), K.B.P. College, Pandharpur, Solapur. 241.
[6]	“Low Temperature Synthesis of Nano-crystalline Barium Strontium Titanate”, S.G. Chavan , S. S. Mane, <b>P. M. Kharade</b> , A. N. Tarale, S. B. Kulkarni, M. E. Jayasingh , P. B. Joshi, D. J. Salunkhe, ICFMNCC-2015 (Mar.9-11,2015), K.B.P. College, Pandharpur, Solapur.
[7]	“Synthesis and characterization of Polypyrrole thin film for supercapacitor application”, <b>P. M. Kharade</b> , S.G. Chavan, S.S. Mane, S.D. Chavan, J.V.Thombare, T.R. Mane, S. B .Kulkarni, D. J. Salunkhe, (ICAMS -2016) 7 <sup>th</sup> - 8 <sup>th</sup> December 2016, Post-Graduate Department of Physics, Raje Ramrao Mahavidyalaya, Jath.
[8]	“Nanoflakes MnO <sub>2</sub> thin film as a supercapacitor electrode”, <b>P.M. Kharade</b> , S.S. Mane, S.D. Chavan, S.B. Kulkarni, D.J. Salunkhe, (Techno-Societal 2016) 20-21 December 2016, SVERIs College of Engineering, Pandharpur.
[9]	Hydrothermal synthesis and characterization of CNFO-BZT composites. S.G. Chavan, <b>P. M. Kharade</b> , S. N. Tambe, D. S. Ghadage, S. B. Kulkarni, D. J. Salunkhe, (ICAMS-2016) 7 <sup>th</sup> - 8 <sup>th</sup> December 2016, Post-Graduate Department of Physics, Raje Ramrao Mahavidyalaya, Jath.
[10]	Structural, Morphological and Capacitive Behaviour of Electrodeposited Polypyrrole thin film for supercapacitor, <b>P. M. Kharade</b> , T.R. Mane, D.H. Bobade, D. J. Salunkhe, International Conference on “Go Green”, (12 <sup>th</sup> -13 <sup>th</sup> Jan-2017), Chandmal Tarachand Bora College, Shirur, Dist-Pune, Pin-412210.Maharashtra
[11]	Ground nut seed like hydrophilic polypyrrole based thin film as a supercapacitor electrode, <b>P. M. Kharade</b> , S. G. Chavan, S. S. Mane, S. D. Chavan, S. B .Kulkarni, D. J. Salunkhe, <b>RTNA-2017</b> ( 21 Jan-2017), Vidnyan Mahavidyalaya, Sangola.
[12]	One day University level workshop on <b>B.Sc.-III Physics CBCS pattern syllabus</b> organized by Sangola College, Sangola (2018)
[13]	Structural, Morphological and capacitive behaviour Manganese Dioxide (MnO <sub>2</sub> ) Thin Film For Supercapacitor Application, <b>P. Kharade</b> , M. Patil, A. Babar, J. Thombare, B.R. Karche, S.B.Kulkarni, D. Salunkhe,

	International Conference on Materials and Environmental Science (ICMES-2018) 7 <sup>th</sup> -8 <sup>th</sup> December 2018, Department of Physics, Shri Yashwantrao Patil Science College, Solankur and The New College, Kolhapur.
[14]	Synthesis and Characterization of Chromium Oxide (Cr <sub>2</sub> O <sub>3</sub> ) thin film for supercapacitor Application, <b>P.M. Kharade</b> , T.R. Mane, J.V. Thombare, B.B. Navale. S.S.Dhasade, S.B. Kulkarni, D.J.Salunkhe,
[15]	International E-Conference on Cutting Edge Smart Materials and nanotechnology, P.M. Kharade, ICCESMN-2020 (20-21 Aug-2020), Sadguru Gadage Maharaj College, Karad.
[16]	Structural, Morphological and Supercapacitive Performance of Electrodeposited PPy/Co <sub>3</sub> O <sub>4</sub> Thin Film, <b>P. M. Kharade</b> <sup>1*</sup> , J. V. Thombare <sup>2</sup> , S. S. Dhasade <sup>2</sup> , P. B. Abhange <sup>3</sup> , R.S.Gaikwad <sup>4</sup> , S. D. Patil <sup>5</sup> , D. J. Salunkhe <sup>6</sup> , International E-Conference on Recent Advances in Material Science and Nanotechnology-2021(RTNA-2021)7-9 Feb-2021. Department of Physics, Arts , Commerce and Science College, Maregaon.
[17]	Electrochemical Synthesis of Manganese Oxide Thin Film for Super Capacitor, <b>P. M. Kharade</b> <sup>1*</sup> , J. V. Thombare <sup>2</sup> , S. D. Patil <sup>3</sup> , S.S. Dhasade <sup>2</sup> , P.B.Abhange <sup>4</sup> , R. S. Gaikwad <sup>5</sup> , C.S. Pawar <sup>1</sup> , S. S. Deokar <sup>1</sup> , D.J. Salunkhe <sup>6</sup> , International e-Conference on Recent Trends in Nano-Materials and Its Application-2021(RTNA-2021)9-10 Apr-2021. Department of Physics, Vidnyan Mahavidyalaya, Sangola.
[18]	Structural and Wettability Study of Electrodeposited NiO Thin Film, <b>P. M. Kharade</b> <sup>1*</sup> , A.R. Babar <sup>1</sup> , J. V. Thombare <sup>2</sup> , S. D. Patil <sup>3</sup> , S.D.Chavan <sup>4</sup> , D.J. Salunkhe <sup>5</sup> , International e-Conference on Recent Trends in Nano-Materials and Its Application-2021 (RTNA-2021)9-10 Apr-2021. Department of Physics, Vidnyan Mahavidyalaya, Sangola.
[19]	Effect of Particle Size on the Specific Surface Area, Density, and Porosity of Mg <sub>0.8</sub> Zn <sub>0.2</sub> Cr <sub>x</sub> Fe <sub>2-x</sub> O <sub>4</sub> , Swati Patil <sup>1</sup> , <b>P. M. Kharade</b> <sup>2</sup> , J. V. Thombare <sup>3</sup> , R.S.Gaikwad <sup>3</sup> , S. M. Mane <sup>4</sup> , S. S. Dhasade <sup>3</sup> , International e-Conference on Recent Trends in Nano-Materials and Its Application-2021 (RTNA-2021)9-10 Apr-2021. Department of Physics, Vidnyan Mahavidyalaya, Sangola.
[20]	FTIR and VSM Study of Sol-Gel Synthesized Nanoparticles of Mg <sub>0.8</sub> Zn <sub>0.2</sub> Cr <sub>x</sub> Fe <sub>2-x</sub> O <sub>4</sub> , Swati Patil <sup>1</sup> , <b>P. M. Kharade</b> <sup>2</sup> , J. V. Thombare <sup>3</sup> , R.S.Gaikwad <sup>3</sup> , S. M. Mane <sup>4</sup> , S. S. Dhasade <sup>3</sup> , International e-Conference on Recent Trends in Nano-Materials and Its Application-2021 (RTNA-2021)9-10 Apr-2021. Department of Physics, Vidnyan Mahavidyalaya, Sangola.

❖ **Guest Lectures:**

- A Guest Lecture on “*Optics*” at Shivaji polytechnic, Sangola, 2016.

- A Guest Lecture on “*laser*” Shivaji polytechnic, Sangola, **2017**.
- A Guest Lecture on “*Optics and Modern physics*” at Shivaji polytechnic, Sangola, **2018**

❖ **Books Published:**

‘Advanced Bilayer Heterostructure Electrodes for High Performance Supercapacitors’ in Lambert Academic Publishing, 11<sup>th</sup> December 2025.

❖ **Patent:**

Medical and Laboratory Equipment: Apparatus and equipment for doctors, hospitals, laboratories’ Design number: 6488878, Grant Date: 05 December 2025, Registration date: 28 November 2025.

Date : 16/03/2026

Place: Sangola

Signature of Candidate  
(Dr. P.M. Kharade)