



Bhogawati Shikshan Prasarak Mandal's

Bhogawati Mahavidyalaya, Kurukali,

Taluka: Karveer, District: Kolhapur- 416001

Individual Profile

Name : Dr. Tanaji Shankar Patil

Name of Department: Physics

Address : A/p – Kavane, Tal. -Karveer,
Dist, - Kolhapur 416207

E-mail ID : tanajipatil11@gmail.com

Mobile No. : 9665714552

Present Designation : Associate Professor

Date of Appointment : 02nd July 2009

Blood Group : B +ve



Educational Qualification :

1. Ph. D., 2024, Shivaji University, Kolhapur.
2. M. Sc. (Physics), Second Class, 2002, Shivaji University, Kolhapur.
3. B. Sc. (Physics), First Class, 2000, Shivaji University, Kolhapur.

Additional Qualification :

1. Qualified State Eligibility Test (SET) for Lectureship, Jan. 2006.

Refresher/Orientation Courses:

1. Completed UGC sponsored Orientation course at Goa University with achievement of 'A' Grade during the period 15 Jan. 2013 to 12 Feb. 2013.
2. Completed UGC sponsored Refresher course in Nanoscience (Batch – VI) at UGC – ASC, University of Madras, Chennai during the period of 3rd Feb. 2015 and 23rd Feb. 2015 with achievement of 'A' Grade.
3. Completed SCOSTEP-ISWI International School on Space Science organized by Smt. Kasturbai Walchand College, Sangli during the period 7th November to 17th November 2016, sponsored by UGC, ISRO, NASA and Shivaji University, Kolhapur.
4. Completed online One-week Faculty development Programme on “Open-Source Tools for Research” at TLC -Ramanujan college, University of Delhi 8th June to 14th June 2020 with achievement of 'A' Grade.
5. Completed online refresher course on “Research Methodology: Tools and Techniques” at UGC-HRDC, Mizoram University 7th July to 20th July 2020 with achievement of 'A' Grade, sponsored by UGC
6. Completed online Two-week interdisciplinary refresher course/Faculty development Programme on “Advanced Research Methodology 2.0” at TLC -Ramanujan college, University of Delhi 17th June to 1st July 2021 with achievement of 'A' Grade.

List of Research Paper Publication:

[i] Papers/Posters

1. “A Study of Synthetic Methods and Applications of Polyaniline Nanofibres”, R. S. Kamble, **T. S. Patil**, N. M. Patil presented at national Conference on Frontiers of research in Chemistry (FRC-2013) at Sadguru Gadge Maharaj College, Karad on 26th and 27th December 2013.
2. “Study of Activity of H-ZSM-5 catalysts for Light Alkane Aromatization” Raviraj Kamble, **Tanaji Patil**, Rajan Kamble, Vijay Kothavale, N. Vishwanadham, presented at International Conference on Advances in Materials Science (ICAMS-2016) at Raje Ramrao Mahavidyalaya, Jath on 7th and 8th December 2016.
3. “Structural and Optical Study of Titanium Dioxide Thin Films by Chemical Spray Pyrolysis” V. P. Kothavale, **Tanaji S. Patil**, R. S. Kamble, C. M. Kannamadi, C. H. Bhosale, presented at International Conference on Advances Materials Science (ICAMS-2016) at Raje Ramrao Mahavidyalaya, Jath on 7th and 8th December 2016.

4. "Effect of Acid Dopant ions on the Electrical Conductivity of Polyaniline" Raviraj S. Kamble, **Tanaji S. Patil**, presented at National Conference on Recent Trends in Physical, Chemical and Nanoscience 2017 at Lal Bahadur Shastri College of Arts, science and Commerce, Satara on 23rd January 2017.
5. "Preparation and Characterization of HCl and H₂SO₄ Acid Doped polyaniline" Raviraj S. Kamble, **Tanaji S. Patil** presented at National Conference on Emerging Trends in Chemical and Physical Sciences (ETCPS-2017) at Y. C. Warana Mahavidyalaya, Warananagar on 14th February 2017.
6. "Synthesis of Nanosized Polyaniline Material by Simple Chemical Oxidative Method" Raviraj Kamble, **Tanaji S. Patil**, presented at National Conference on Materials and Environmental Science (NCMES-2017)" organized by Shri Yashwantrao Patil Science College, Solankur on 15th February 2017.
7. "Preparation, Characterization and Electrical Conductance Properties of HCl and H₂SO₄ Acid Doped Polyaniline" Raviraj S. Kamble, **Tanaji S. Patil** Proceedings on International Conference on Materials and Environmental Science (ICMES-2018) ISBN:978-93-5346-224-6 at Shri. Yashwantrao Patil Science College Solankur and New College, Kolhapur on 7th and 8th December 2018.
- 8." Electrodeposited nanostructured Mn₃O₄ thin films for supercapacitor applications", **Tanaji S. Patil**, presented at International Virtual Conference on Materials Research (IVCMR-22) organized by department of Physics, Easwari Engineering college Ramapuram, Chennai on 15th and 16th September 2022.
- 9." Supercapacitive performance of electrophoretically deposited grass like nanostructured Mn₃O₄ thin films", **Tanaji S. Patil**, presented at National Conference on Recent Advances in Fabrication Technology of Nanomaterials (RAFTN-2022) organized by department of Physics, Balwant college Vita, Dist. - Sangali on 28th December 2022.
- 10."Structural and optical study of Ni doped Mn₃O₄ thin films" **Tanaji S. Patil**, presented at International Conference on Emerging Trends in Basic and Applied Sciences (ETBAS-2023) at K.H. Arts, science, Commerce and Education College, Gargoti on 17th January 2023.
- 11."Improved supercapacitive performance of nanostructured Mo doped Mn₃O₄ thin films", **Tanaji S. Patil**, presented at National Conference on Emerging Trends in Fabrication of Nanomaterials and their Applications (NCETFNA-2023)" organized by department of Physics, Chemistry and IQAC, Prof. Dr. N. D. Patil Mahavidyalaya, Malkapur-Perid on 29th April 2023.

12. “Nickel doped Mn_3O_4 nanoflakes: Structural, Morphological and Optical study”, **Tanaji S. Patil**, presented at National Conference on Physics of Materials and Materials based Device Fabrication (NCPM-MDF-2023)” organized by department of Physics, Shivaji University Kolhapur on 25th and 26th November 2023.
13. “Effect of annealing temperature on structural, optical and gas sensing properties of ZnO nanorod thin films”. **Tanaji S. Patil**, presented at National Conference on Nanomaterials and applications (NCNA-25)” organized by department of Physics, The New college, Kolhapur on 21th and 22nd February 2025.

[iii] Journal Publications/ Conference/Seminar Publications:

1. “A Study of Synthetic Methods and applications of polyaniline Nanofibers”, R. S. Kamble, **T. S. Patil**, N. M. Patil. Proceedings on National Conference on Frontiers of Research in Chemistry (FRC-2013) at Sadguru Gadge Maharaj College, Karad (ISBN 978-935137-576-0).
2. “Study of Activity of H-ZSM-5 catalysts or Light Alkane Aromatization” Raviraj Kamble, **Tanaji Patil**, Rajan Kamble, Vijay Kothavale, N. Vishwanadham, Proceedings on International Conference on Advances in Materials Science (ICAMS-2016) (ISBN 978-93-5254-490-5) at Raje Ramrao Mahavidyalaya, Jath
3. “Structural and Optical Study of Titanium Dioxide Thin Films by Chemical Spray Pyrolysis” V. P. Kothavale, **T. S. Patil**, R. S. Kamble, C. M. Kannamadi, C. H. Bhosale, Proceedings on International Conference on Advances Materials Science (ICAMS-2016) (ISBN 978-93-5254-490-5) at Raje Ramrao Mahavidyalaya, Jath on 7th and 8th December 2016.
4. “Effect of Some Inorganic Acid Dopants on Electrical Conductivity of Polyaniline” Raviraj S. Kamble, **Tanaji S. Patil**, Proceedings on Second International Conference on Advances in Materials Science (ICAMS-2017) (ISBN 978-84-931247-6-5), p. 157-162 at Raje Ramrao Mahavidyalaya, Jath on 22nd and 23rd December 2017.
5. “Preparation, Characterization and Electrical Conductance Properties of HCl and H_2SO_4 Acid Doped Polyaniline” Raviraj S. Kamble, **Tanaji S. Patil** Proceedings on International Conference on Materials and Environmental Science (ICMES-2018) ISBN:978-93-5346-224-6 at S. Y. P. Science College Solankur and New College, Kolhapur on 7th and 8th December.
6. “Photoelectrocatalytic degradation of Rhodamine B using N doped TiO_2 thin Films”, Kothavale, V. P., Patil, T. S., Patil, P. B., & Bhosale, C. H. (2020). *Materials Today: Proceedings*, 23, 382-388.

7. "Structural, optical, morphological, and supercapacitive studies of electrophoretically deposited nanostructured Mn₃O₄ thin films", (2024), Tanaji S. Patil, S.M. Nikam, V.P. Kothavale, R.S. Kamble, R.B. Patil, M.V. Takale, S.A. Gangawane, Thin Solid Films, Volume 792, 140252, ISSN 0040-6090, <https://doi.org/10.1016/j.tsf.2024.140252>.
8. Effect of Nickel (Ni) Ion Doping on the Morphology and Supercapacitive Performance of Mn₃O₄ Thin Films, (2024), Patil, T.S., Kothavale, V.P., Malekar, V.P., Kamble, R. S., Patil, R. B., Gurav, K. V., Takale, M. A., Gangawane, S. A, J. Electron. Mater. **53**, 394–407. <https://doi.org/10.1007/s11664-023-10765-4>
9. "Enhanced supercapacitive performance of electrophoretically deposited nanostructured molybdenum-doped Mn₃O₄ thin films", (2024), Patil, Tanaji S., Kamble, Raviraj S., Patil, Rahul B., Takale, Mansing V. and Gangawane, Satish A., International Journal of Materials Research, vol. 115, no. 1, pp. 47-58. <https://doi.org/10.1515/ijmr-2022-0414>
10. "A Review on Mn₃O₄ and Its Composite Nanomaterials of Diverse Morphologies as an Electrode Material in Supercapacitors", (2021), **Tanaji S. Patil**, Satish A. Gangawane, Mansing V. Takale, International Journal of Scientific Research in Science and Technology (www.ijrst.com), Vol. 8, Issue 2, Print ISSN: 2395-6011, Online ISSN: 2395-602X, doi : <https://doi.org/10.32628/IJSRST>
11. Study of different acid doped polyaniline nanostructures and their electrical conductance properties, (2022), R. S. Kamble, **T. S. Patil**, R. P. Patil, Journal of Scientific Research, Vol. 14, Issue 2, Pages 659-669.
12. Annealing-Driven Modifications in ZnO Nanorod Thin Films and Their Impact on NO₂ Sensing Performance, (2025), Nikam, S.M.; **Patil, T.S.**; Nimbalkar, N.A.; Kamble, R.S.; Patil, V.R.; Mote, U.E.; Gilani, S.J.; Mane, S.M.; Lee, J.; Mane, R.D., Micromachines, *16*, 778. <https://doi.org/10.3390/mi16070778>
13. Nickel ion-doped vertical nanorod array network of ZnO engineered by chemical bath deposition for versatile NO₂ gas sensor, Nikam, S.M., **Patil, T.S.**, Nimbalkar, N.A., Vijay P. Kothavale, Raviraj S. Kamble, Gautam A. Gaikwad, Sagar M. Mane, Jaewoong Lee & Ravindra D. Mane, (2025), *J. Korean Ceram. Soc.* **62**, 330–349. <https://doi.org/10.1007/s43207-024-00469-8>

Participation in Seminar/Conference/Workshops:

1. Attended National Seminar on "Nanostructured Materials for Advanced Technology" (NS-NMAT-2011) organized by K.B.P. mahavidyalaya, Pandharpur on 3rd and 4th October 2011.

2. Attended National Conference on “Mathematical aspects of Physical concepts and Physical aspects of Mathematical concepts” (MAPC and PAMC-2012) organized by Shri S.H. Kelkar college, Devgad on 16th and 17th January 2012.
3. Attended one day workshop on Revised Syllabus of Physics (B. Sc. III, Sem.-VI) organized by Dept. of Physics, Padmabhushan Dr. Vasantodada Patil Mahavidyalaya, Tasgaon, Dist. - Sangali and sponsored by Shivaji University, Kolhapur on 10th August 2012.
4. Attended National Conference on “Recent Trends in Nanotechnology” organized by department of Physics, Vivekanand college, Kolhapur on 14th and 15th December 2012.
5. Attended one day workshop on B. Sc. II (Sem. – III/ Physics Paper V, VI and Practicals) Revised Syllabus organized by Dept. of Physics, S. M. Dr. Bapuji Salunkhe Mahavidyalaya, Miraj and sponsored by Shivaji University, Kolhapur on 11th August 2014.
6. Attended International Conference on “Emerging Trends in Basic and Applied Sciences” organized by Karmveer Hire Arts, Science, Commerce and Education, Gargoti on 10th March 2015.
7. Attended International Conference on “Advances in Materials Science (ICAMS-2016) organized by Raje Ramrao Mahavidyalaya, Jath on 7th and 8th December 2016.
8. Attended National Conference on “Recent Trends in Physical, Chemical and Nano sciences 2017” organized by Lal Bahadur Shastri College of Arts, Science and Commerce, Satara on 23rd January 2017.
9. Attended National Conference on “Emerging Trends in Chemical and Physical Sciences” organized by Yashwantrao Chavan Mahavidyalaya, Warananagar on 14th February 2017.
10. Attended National Conference on “Materials and Environmental Science (NCMES-2017)” organized by Shri Yashwantrao Patil Science College, Solankur on 15th February 2017.
11. Attended Second International Conference on Advances in Materials Science (ICAMS-2017) at Raje Ramrao Mahavidyalaya, Jath on 22nd and 23rd December 2017.
12. Attended National Conference on “Recent Trends in Chemical Science and Its Interdisciplinary Applications (RTCSIA-2018) organized by Shree. Y. P. Science College, Solankur on 6th January 2018.

13. Attended International Conference on Materials and Environmental Science (ICMES-2018) organized by jointly organized by Shree. Y. P. Science College, Solankur and New College, Kolhapur on 7th and 8th December 2018.
14. Attended one day workshop on Medical Physics and diabetes organized by Dept. of Physics, Shree. Y. P. Science College, Solankur and Shivaji University, Kolhapur on 15th February 2024.
15. Attended one day workshop on New Changed Syllabus of B. Sc. II Physics NEP 2020 (2.0) organized by Dept. of Physics, Rajaram College, Kolhapur and sponsored by Shivaji University, Kolhapur on 9th September 2025.
16. Attended one day workshop on Non-conventional Energy Resources organized by Dept. of Physics, Doodhsakhar Mahavidyalaya, Bidri and sponsored by Shivaji University, Kolhapur on 29th September 2025.

Minor Research project

“Tailoring of the supercapacitive performance of Mn_3O_4 thin films via Doping of other metal ions.” - DIAMOND JUBILEE RESEARCH INITIATION SCHEME- Shivaji University, Kolhapur - 2022-2023.

Research Activities:

I) Ph. D.

Title of Thesis: “Studies on doped manganese oxide thin films for supercapacitor application”

Curricular Activities:

1. Examiner in Physics at B. Sc. I, II & III.
2. Senior Supervisor at various Examinations of Shivaji University, Kolhapur.
3. Junior Supervisor at various Examinations of Shivaji University, Kolhapur.
4. Personal book bank of about 25 reference books.
5. Guide for various projects of B.Sc. III students.
6. Reviewer of international journals.

Extra-curricular activities:

1. Financial aid to poor students.
2. Donation of blood.
3. Financial aid to patients of heart and kidneys.
4. Worked as Co-ordinator for One Day National Conference Innovative Approaches in Pure and Applied Sciences-2019 organized by Bhogawati College, Kurukali on 7th February 2019.

Different committees:

Sr. No.	Committee	Year	Member/Chairman
1	Discipline	2009 to 2026	Member
2	N. S. S.	2018 to 2021	Member
3	NAAC Criteria VII	2021 to 2026	Chairman
4	S.T.	2020 to 2026	Chairman
5	Admission	2009 to 2026	Member
6	Avishkar	2017 to 2021	Member

Counseling Services:

a) Academic Counseling :

- Special coaching for the students who want to appear for competitive examinations.
- Special attention is given to students who are talented.
- Guidance for students to take up the higher education (Post Graduation).

b) Personal Counseling :

- Guidance for the Primary and Secondary School teachers for the Science Exhibition.
- Member of Consultancy Cell.