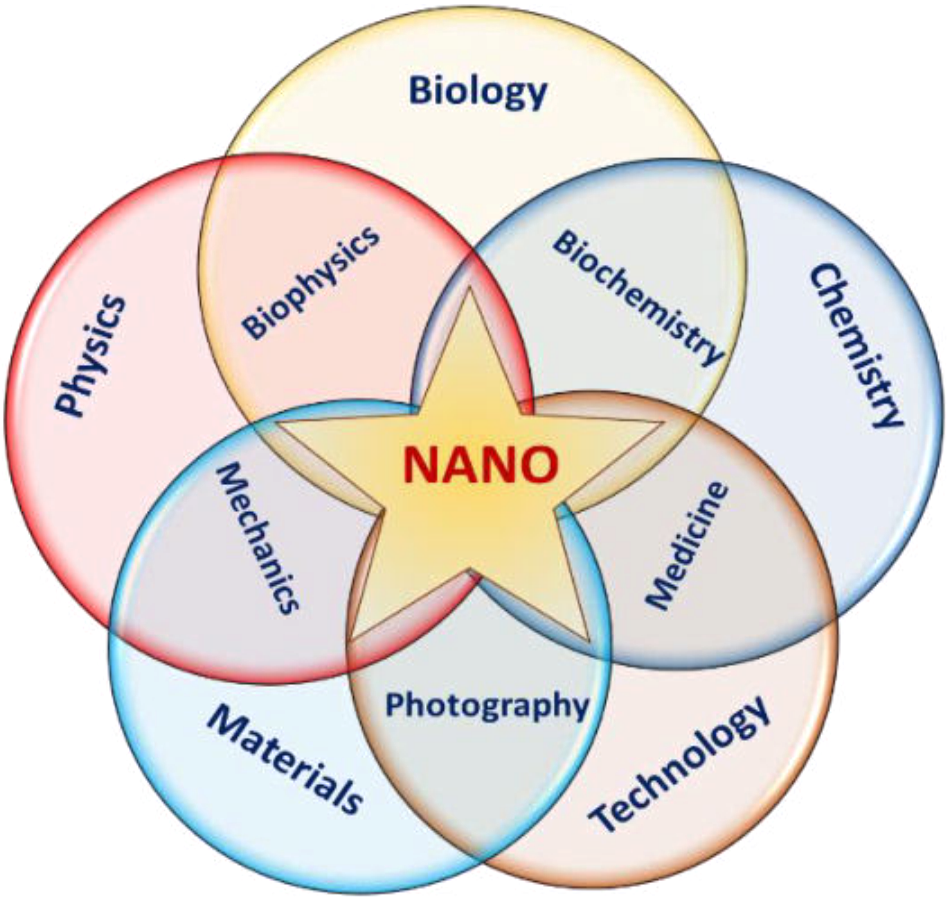
Estd : 1962
'A++' Accredited by
NAAC (2021)
with CGPA 3.52

School of Nanoscience and Biotechnology

Profile



Shivaji University, Kolhapur
www.unishivaji.ac.in
(2023-24)

Department Profile

Name of the Department: School of Nanoscience and Biotechnology

Year of Establishment: 2012

1. From the Desk of Head:

Nanoworld is emerging as a small world with enormous opportunities. Objects in the range of 1-100 nm exhibit unexpected chemical, physical and biological properties. These astonishing new properties are the gateway to innovation in a variety of fields including chemistry, biology, physics, material and environmental sciences, engineering and medicine. Hence developing an exciting and comprehensive Nanoscience Education Program combining cutting-edge nanofabrication instruments with a stimulating curriculum is need of an hour. Hence it was decided to establish School of Nanoscience and Biotechnology on the Shivaji University campus on the eve of golden jubilee celebration.

The School of Nanoscience and Biotechnology (B.Sc.-M.Sc. 5 year integrated course) intends to cultivate an interdisciplinary approach and bring together major science branches under one umbrella. This will enable students to undertake their careers in Nanotechnology based industries, Nanotechnology based research institutes around the world, Process and Manufacturing industries, Research and Development Laboratories, Employment as a teacher/scientist, Govt. Organizations, Higher studies in other national institutes (Ph.D.) and Research abroad.

I hope that the school curriculum and training will help prepare students to succeed in their chosen careers by enhancing their scientific knowledge, skills and literacy through hands-on education of science and engineering concepts at the nanoscale.

Prof. (Dr.) K. K. Sharma
I/c Director,
School of Nanoscience and Biotechnology,
Shivaji University, Kolhapur

2. Brief History of the department along with present focus in academic & research

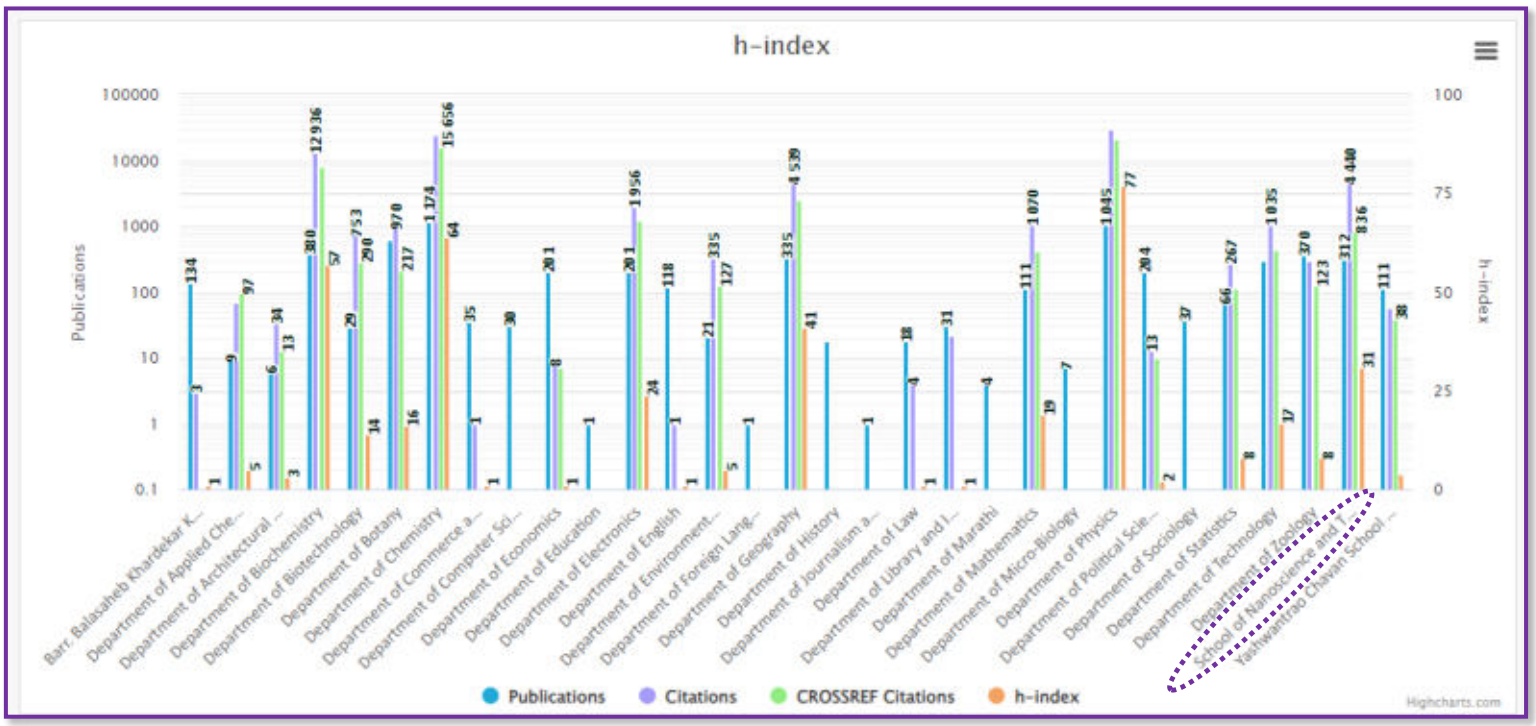
With the support and sanction of Government of Maharashtra, "School of Nanoscience and Biotechnology" was started in the university campus on the eve of golden jubilee celebration-2012. Since its establishment, this course has been catering the needs of upcoming budding scientists in the field of Nanoscience and Nanotechnology. The school is functioning successfully with excellent infrastructure and established national and international collaborative networks in the area of research and development. All the students rigorously undergo research project based extensive learning and training to get hands on experiences of cutting edge, multidisciplinary technologies. The school, with its proven record in the research fields such as nanomaterials for energy storage and generation, nanocatalysis, nanobiotechnology, nanoelectronics, nanomaterials and devices, trains students in these areas of research. Besides, the school is also well known as a research and academic centre to get associated and collaborate with for various academic and scientific activities. Many faculty members, researchers and students from different departments of Shivaji University and affiliated colleges are associated with the school and capitalize on good research infrastructure and expertise of the school.

References:

- https://3mcarcarethane.in/ceramic-coating-for-card
- https://www.sayingtruth.com/indian-scientists-bullet-proof-jacket-gets-ministrys-bow/
- https://toppersnotes.co/current-affairs/blog/iffco-to-launch-nano-urea-hAiq
- https://m.indiamart.com/proddetail/water-proof-stainproof-shirts-26742867033.html
- https://www.amazon.in/BASIC-AYURVEDA-Certified-Supplements-Ingredients/dp/B082VD4XMW?th=1
- https://product.statnano.com/
- https://shop.errecom.com/en/product/universal-nano-cleaner/
- https://www.isro.gov.in/mission_PSLV_C37_NanoSatellite.html

Focus of academics and research – To enable the rural students to develop a capacity and advanced skills in nanoscience and nanotechnology.

- Number of Faculties: 23
- Number of Non-Teaching Staff: 13
- Number of ICT Classrooms: 02
- Number of Conference Hall: 01
- Number of Laboratories: 08
- Number of Research Laboratories: 02
- Number of Computer Laboratories: 01
- Research Facility: Nanoscience Instrumentation Facility Centre (NIFC)



Data source: https://unishivaji.irins.org/, Available data is upto 02 Feb. 2024, 4:40 pm

Research:

- Number of Papers Published In National / International Journals: 402
- Number of Patents Applied: 08
- Number of Patents Granted: 06
- Number of Products Developed: 07

3. Departmental information:

i) Vision:

To become a global center of multidisciplinary knowledge, skills and technologies in Nanoscience.

ii) Mission:

We Endeavour to make this school an advanced centre of research and innovation in Nanoscience and Nanotechnology.

iii) Goals of Department:

- Attach, retain and nurture the students at an early stage to create an ignited workforce.
- Uplift and upgrade the standards of teaching, learning and research to match global level of excellence.
- Create international benchmarks in research, patents, and consultancy services.
- Create and sustain a conducive academic ambience.

4. Academic program offered with intake

Sr. No.	Programme	Year of Inception	Intake Capacity
1.	B. Sc.-M. Sc. (5-Year Integrated) Nanoscience and Technology	2012	60
2.	M. Sc. Nanoscience and Technology	2015	60
3.	M. Phil. Nanoscience and Technology	2018-19	As per available vacancies
4.	Ph.D. Nanoscience and Technology	2018-19	As per available vacancies

5. NEP 2020 program structure with multiple exit and entry options

B. Sc. – M. Sc. in Nanoscience and Technology (5 Year)

i) B.Sc. I
ii) B.Sc. II
iii) B.Sc. III
iv) M.Sc. I
v) M.Sc. II

6. Outcome based education:

i) Program Outcomes (POs)

PO 01: Fundamental Understanding of Nanoscience & Nanotechnology: Apply the knowledge of basic Physics, Chemistry, Biotechnology, Mathematics, Statistics, Electronics & Environmental Science as a foundation for the solution of complex Nanoscience & Nanotechnology problems.

PO 02: Problem Analysis: Identify, formulate and analyze Nanoscience & Nanotechnology problems to arrive at substantiated conclusions using principles of basic and applied sciences.

PO 03: Research Based Learning: To use research-based training for designing scientific projects through experiments, analysis and interpretation of data and synthesis of the information to provide scientific conclusions.

PO 04: Nanoscience for Society Relevance: Application of the Nanoscience & Nanotechnology knowledge for the solutions of societal problems like environmental, industrial and health for sustainable development.

PO 05: Research Ethics & Communication: Apply research ethical principles and commit to professional ethics, responsibilities and norms of the scientific communication practice.

ii) Program Specific Outcomes (PSOs)

PSO 01: To provide trained professional human resources in Nanoscience & Nanotechnology for capacity building of the Nation.

PSO 02: Capture and nurture rural students at early stage to develop ignited manpower.

7. Details of Faculty:

Profile:

Name	Prof. (Dr.) Kiran Kumar K. Sharama	
Designation	Professor and i/C Director	
Contact No.	+91 98819200369	
E-mail ID	kks.snst@unishivaji.ac.in	
Research Areas	Nanocatalysis, Nanoscience and technology, Photocatalysis, Nanocoatings, Adsorption, Aerogel, Gas sensing, Supercapacitor, Batteries.	
No of Research papers published in last 5 years	26	
Research Projects in last 5 years (Give details)	Completed: 03	Ongoing: 01
	1) PI: Centre for Nanofabrics, State Project Director-Rashtriya Uchchatar Shiksha Abhiyan, Maharashtra (SDP-RUSA, Maharashtra), Funding: 120 Lakh, 2021. 2) PI: Development of nexar polymer nanocoatings for antimicrobial and	1) PI: Product development and validation of lidle nanocoatings on MS crucible for durable and high performance molten handling.

<table>
<tr><td></td><td>antiviral properties on various substrate- Phase -I and Phase-II Centre for Nanofabrics (Completed 2020) KRATON

3) PI: Product development and validation of Virus Kavach fabrics technology antimicrobial and antiviral* property Centre for Nanofabrics (Completed 2020) ECO-SCIENCE</td><td colspan="3">Ceraflux pvt. Ltd.</td></tr>
<tr><td>Books Published (Details)</td><td colspan="4">1. Arif D. Sheikh and Kiran Kumar K. Sharma. Dimensional Engineering of 2D/3D Perovskite Halides for Efficient and Stable Solar Cells Handbook of Materials Science, Volume 1, ISBN 978-981-99-7144-2., Springer</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">01 ‘Construction of Curcumin-bael fruit gum elctrospun nanofibers’</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>RG Score</td></tr>
<tr><td>709+</td><td>17</td><td>25</td><td>437</td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">01</td><td colspan="2">07</td></tr>
<tr><td>Selected Publications (7)</td><td colspan="4">1) Sarvalkar, Prashant D., Apurva S. Vadanagekar, Omkar S. Karvekar, Pramod D. Kumbhar, Santosh S. Terdale, Avinash Singh Thounaojam, Sanjay S. Kolekar, Rajiv S. Vhatkar, Pramod S. Patil, and Kiran Kumar K. Sharma. "Thermodynamics of Azo Dye Adsorption on a Newly Synthesized Titania-Doped Silica Aerogel by Cogelation: A Comparative Investigation with Silica Aerogels and Activated Charcoal." ACS omega 8, no. 14 (2023): 13285-13299. (IF-4.1)
2) Talele, P., Jadhav, A., Tayade, S., Sahu, S., Sharma, K. K., & Shimpi, N. (2022). Hydroquinone loaded solid lipid nanoparticles comprised of stearic acid and ionic emulsifiers: Physicochemical characterization and in vitro release study. Journal of Molecular Liquids, 368, 120590. (IF-</td></tr>
</table>

	6.0) 3) Sadalage, P. S., Nimbalkar, M. S., **Sharma, K. K. K.**, Patil, P. S., & Pawar, K. D. (2020). Sustainable approach to almond skin mediated synthesis of tunable selenium microstructures for coating cotton fabric to impart specific antibacterial activity. *Journal of colloid and interface science*, *569*, 346-357. **(IF-9.9)** 4) Pawar, K. K., Mali, S. S., Navale, Y. H., Patil, V. B., Sharma, K. K., Hong, C. K., & Patil, P. S. (2021). Fabrication of enhanced sensitive and selective porous indium oxide nanocube sensor for NO2 detection. *Ceramics International*, *47*(2), 2430-2440.**(IF-5.2)** 5) Kumbhar, Gouri S., Shubham V. Patil, Prashant D. Sarvalkar, Apurva S. Vadanagekar, Omkar S. Karvekar, Sharadchandra S. Patil, Manali R. Rane, **Kiran Kumar K. Sharma,** Deepti N. Kurhe, and Neeraj R. Prasad. "Synthesis of a Ag/rGO nanocomposite using Bos taurus indicus urine for nitroarene reduction and biological activity." *RSC advances* 12, no. 55 (2022): 35598-35612.**(IF-3.9)** 6) Karvekar, Omkar S., Apurva S. Vadanagekar, Prashant D. Sarvalkar, Suresh S. Suryawanshi, Sarita M. Jadhav, Richa D. Singhan, Jyoti P. Jadhav, **Kiran Kumar K. Sharma**, and Neeraj R. Prasad. "Bos taurus (A-2) urine assisted bioactive cobalt oxide anchored ZnO: a novel nanoscale approach." *Scientific Reports* 12, no. 1 (2022): 15584.**(IF-4.9)** 7) Sarvalkar, P. D., R. R. Mandavkar, M. S. Nimbalkar, **K. K. Sharma**, P. S. Patil, G. S. Kamble, and N. R. Prasad. "Bio-mimetic synthesis of catalytically active nano-silver using Bos taurus (A-2) urine, Sci. Rep. 11 (2021) 1–17.**(IF-4.9)**

Name	Dr. Pramod Jagannath Patil	
Designation	Assistant Professor	

<table>
<tr><td>Contact No.</td><td colspan="4">9833754804</td></tr>
<tr><td>E-mail ID</td><td colspan="4">pjp.snst@unishivaji.ac.in</td></tr>
<tr><td>Research Areas</td><td colspan="4">Operator Theory</td></tr>
<tr><td>No of Research papers published in last 5 years</td><td colspan="4">04</td></tr>
<tr><td rowspan="2">Research Projects in last 5 years (Give details)</td><td colspan="2">Completed -1</td><td colspan="2">Ongoing- 1</td></tr>
<tr><td colspan="2">Mathematical Modeling and Simulation of Resistive Switching Memory Devices under Research Initiation Scheme</td><td colspan="2">Accelerated materials development for renewable energy devices using machine learning techniques under Research Strengthening Scheme</td></tr>
<tr><td>Books Published (Details)</td><td colspan="4">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">Nil</td></tr>
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<tr><td>76</td><td>04</td><td>02</td><td>-</td></tr>
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<tr><td colspan="2">02</td><td colspan="2">Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">-</td></tr>
<tr><td>National/International Awards</td><td colspan="4">-</td></tr>
</table>

Selected Publications 05	1) On the duals of Szego and Cauchy Tuples, Proceedings of AMS,139,(2011), 491-498 (With Prof. Ameer Athavale) 2) On Certain Multivariable Subnormal weighted Shifts and their duals, Canadian Mathematical Bulletin 56(2013) 459-465 (With Prof. Ameer Athavale) 3) Piecewise Linear and Nonlinear Window Functions for Modelling of Nanostructured Memristor Device, Journal of Nano-And Electronic Physics, Vol. 7 No 3, 03012 (4pp) (2015) (With T.D. Dongale1, K.P. Patil, S.B. Mullani, K.V. More, S.D. Delekar, P.K. Gaikwad, R.K. Kamat) 4) TiO2 based nanostructured memristor for RRAM and neuromorphic applications: a simulation approach, Nano Convergence 3 (1), 1-7 (2016) (With T. D. Dongale, NK Desai, PP Chougule, SM Kumbhar, PP Waifalkar, PB Patil, RS Vhatkar, MV Takale, PK Gaikwad, R K Kamat) 5) Effect of Conductive Filament Temperature on ZrO2 based Resistive Random Access Memory Devices, JOURNAL OF NANO- AND ELECTRONIC PHYSICS, Vol. 12, No. 2, (2020) (With N A Ahir, S Yadav, C C Revadekar, K V Khot, R K Kamat, T D Dongale, Deok-kee Kim) 6) Machine learning-assisted design guidelines and performance prediction of CMOS-compatible metal oxide-based resistive switching memory devices, Applied Materials Today 29, 101650 (2022) (With Tukaram D Dongale, Santosh S Sutar, Yogesh D Dange, Atul C Khot, Somnath S Kundale, Swapnil R Patil, Shubham V Patil, Aditya A Patil, Sagar S Khot, Jinho Bae, Rajanish K Kamat, Tae Geun Kim) 7) Investigations on resistive switching effect and time series statistical analysis of solution combustion synthesized ZnTiO3 memristive device, Journal of Materials Science: Materials in Electronics 33 (30), 23390-23403 (With Akhilesh P Patil, Chetan C Revadekar, Girish U Kamble, Somnath S Kundale, Sunil J Kadam, Santosh S Sutar, Tukaram D Dongale) 8) Unraveling the importance of fabrication parameters of copper oxide-based resistive switching memory devices by machine learning techniques, Scientific Reports 13 (1), 4905 (2023) (With Suvarna M Patil, Somnath S Kundale, Santosh S Sutar, Aviraj M Teli, Sonali A Beknalkar, Rajanish K Kamat, Jinho Bae, Jae Cheol Shin, Tukaram D Dongale)

Name	Dr. Kiran Dagadu Pawar	
Designation	Assistant Director/Assistant Professor	
Contact No.	+91 7972147331, +91 8605898790	
E-mail ID	kdp.snst@unishivaji.ac.in	
Research Areas	Microbial Biotechnology, Plant Biotechnology, Plant Molecular Biology, Plant Tissue Culture, Biological synthesis of nanoparticle Applications of nanoparticles in biomedical field, Agricultural Nanobiotechnology.	
No. of Research papers published in last 5 years	**44**	
Research Projects in last 5 years (Give details)	**Resource Mobilization: 6.597 Cr.** 1. Principal Investigator: DBT-BUILDER- Shivaji University Interdisciplinary Life Science Programme for Advance Research and Education., Dept. of Biotechnology, Govt. of India, Finding: 4.27 Cr., 2021-25. **(Ongoing)** 2. Principal Investigator: Synergistic training program utilizing the scientific and technological infrastructure (STUTI) (Co-ordinator), Dept. of Science and Technology, Govt. of India, Funding: 2.25 Cr., 2022-23. **(Ongoing)** 3. Principal Investigator: Enrichment, isolation and characterization of nanocellulose producing bacteria from rotten fruits., Research strengthening scheme, Shivaji University, Kolhapur, Funding: 3 Lakhs, 2019-21. **(Completed)** 4. Principal Investigator: Production of microcellulose/nano-cellulose through degradation of lignocellulosic biomass wastes., Rajiv Gandhi Science and Technology Commision (RGSTC), Govt. of Maharashtra, Funding: 4.7 Lakhs, 2019-21. **(Completed)**	

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<tr><td>Books Published (Details)</td><td colspan="4">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">02
‘Biomolecule mixture for biogenic synthesis of metal nanoparticles’
Indian patent application No.-202121045333A (Granted)
International patent- PCT/IN2021/051188 (Published)</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>Cumulative Impact Factor</td></tr>
<tr><td>1192+</td><td>21</td><td>36</td><td>210</td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">03</td><td colspan="2">03</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">No</td></tr>
<tr><td>National/International Awards</td><td colspan="4">1. Awarded Dr. D. S. Kothari Postdoctoral fellowship of UGC, India
2. Awarded Postdoctoral Fellowship of DBT (Department of Biotechnology, Govt. of India) for Postdoctoral studies in Molecular Biology.
3. Recipient of Senior Research Fellowship (SRF) of the Council of Scientific Industrial Research, India for continuing doctoral studies in 2005.
4. Qualified National Eligibility Test (NET, 2002) for Junior Research Fellowship/ Lectureship (JRF) of the Council of Scientific Industrial Research (CSIR-NET), India for pursuing doctoral studies in 2003.</td></tr>
<tr><td>Selected Publications Since 2018 (44)</td><td colspan="4">1. Sharma, K., Guleria, S., Salaria, K. H., Majeed, A., Sharma, N., Pawar, K. D., . . . Gupta, V. K. (2023). Photocatalytic and biological properties of silver nanoparticles synthesized using callistemon lanceolatus leaf extract. Industrial Crops and Products, 202 (IF-6.449)
2. Patil, S. C., Dhavale, R. P., Patil, V. L., Nimbalkar, M. S., Sonawane, K. D., Patil, P. S., . . . Pawar, K. D. (2023). Calcination temperatures influence the chemo-</td></tr>
</table>

	resistive gas sensing properties of biogenic zinc oxide nanoparticles with antibacterial activity. Inorganic Chemistry Communications, 153. (IF-3.8) 3. Kamble, S. J., Tawade, A. K., **Pawar, K. D.,** Kamble, J. B., Kamble, P. D., More, V. B., . . . Patil, J. M. (2023). Electrochemical sensing of dopamine at biogenic gold nanoparticles interface. Asian Journal of Chemistry, 35(5), 1243-1249. (IF-0.158) 4. Xie, R., Dong, C., Wang, S., Danso, B., Dar, M. A., Pandit, R. S., **Pawar, K. D.,** . . . Sun, J. (2023). Host-specific diversity of culturable bacteria in the gut systems of fungus-growing termites and their potential functions towards lignocellulose bioconversion. Insects, 14(4) (IF- **3.05**) 5. Mascarenhas-Melo, F., Peixoto, D., Aleixo, C., S. Gonçalves, M. B., Raza, F., **Pawar, K. D.**, . . . Paiva-Santos, A. C. (2023). Nanoclays for wound management applications. Drug Delivery and Translational Research, 13(4), 924-945. (IF-5.671) **Review** 6. Desai, M. P., Paiva-Santos, A. C., Nimbalkar, M. S., Sonawane, K. D., Patil, P. S., & **Pawar, K. D.** (2023). Iron tolerant bacillus badius mediated bimetallic magnetic iron oxide and gold nanoparticles as doxorubicin carrier and for hyperthermia treatment. Journal of Drug Delivery Science and Technology, 81. (IF-5.062) 7. Ferreira, L., Mascarenhas-Melo, F., Rabaça, S., Mathur, A., Sharma, A., Giram, P. S., **Pawar, K. D.,** ..... Paiva-Santos, A. C. (2023). Cyclodextrin-based dermatological formulations: Dermopharmaceutical and cosmetic applications. Colloids and Surfaces B: Biointerfaces, 221. (IF-5.999) 8. Sadalage, P. S., & **Pawar, K. D.** (2022). Adsorption and removal of ethidium bromide from aqueous solution using optimized biogenic catalytically active antibacterial palladium nanoparticles. *Environmental Science and Pollution Research*, 1-22. **(IF-5.8)** 9. Sadalage, P. S., Dar, M. A., Bhor, R. D., Bhalerao, B. M., Kamble, P. N., Paiva-Santos, A. C., ... & Pawar, K. D.

	(2022). Optimization of biogenic synthesis of biocompatible platinum nanoparticles with catalytic, enzyme mimetic and antioxidant activities. *Food Bioscience*, *50*, 102024. (IF-5.318) 10. Harke S.S., Patil R.V., Dar M.A., Pandit S.R., **Pawar K. D.**, (2022). Functionalization of biogenic silver nanoparticles with Vitamin B12 for the detection of iron in food samples. Food Chemistry Advances, 100017. (IF-NA) 11. Coimbra, Sara Cabanas, Inês Sousa-Oliveira, Inês Ferreira-Faria, Diana Peixoto, Miguel Pereira-Silva, Ankita Mathur, **Kiran D. Pawar** et al. "Safety Assessment of Nanomaterials in Cosmetics: Focus on Dermal and Hair Dyes Products." *Cosmetics* 9, no. 4 (2022): 83. **(IF-3.46) Review** 12. Dar, M. A., Syed, R., **Pawar, K. D.**, Dhole, N. P., Xie, R., Pandit, R. S., & Sun, J. (2022). Evaluation and characterization of the cellulolytic bacterium, Bacillus pumilus SL8 isolated from the gut of oriental leafworm Spodoptera litura: An assessment of its potential value for lignocellulose bioconversion. *Environmental Technology & Innovation*, *27*, 102459. (IF-7.758) 13. Mascarenhas-Melo, F., Gonçalves, M. B. S., Peixoto, D., **Pawar, K. D.**, Bell, V., Chavda, V. P., ... & Paiva-Santos, A. C. (2022). Application of nanotechnology in management and treatment of diabetic wounds. *Journal of Drug Targeting*, 1-21. (IF-5.016) **Review** 14. Sadalage, P. S., & Pawar, K. D. (2021). Production of microcrystalline cellulose and bacterial nanocellulose through biological valorization of lignocellulosic biomass wastes. *Journal of Cleaner Production*, *327*, 129462. (IF-11.1) 15. Sadalage, P. S., Patil, R. V., Havaldar, D. V., Gavade, S. S., Santos, A. C., & **Pawar, K. D.** (2021) Optimally biosynthesized, PEGylated gold nanoparticles functionalized with quercetin and camptothecin enhance potential anti-inflammatory, anti-cancer and anti-angiogenic activities. Journal of Nanobiotechnology, 19(1): 1- 17. (IF-9.429) 16. Moholkar, D. N., Sadalage, P. S., Peixoto, D., Paiva-Santos, A.C., **Pawar, K. D.,** (2021). Recent advances in biopolymer-based formulations for wound healing applications. Europian Polymer Journal 110784. (IF-6.28) **(Review)** 17. Dar M.A., Dhole, N.P., Xie R., **Pawar K.D**., Ullah, K., Rahi P., Pandit R. S., and Sun J., (2021). Valorization potential of a Novel Bacterial Strain, *Bacillus altitudinis* RSP75,

towards Lignocellulose Bioconversion: An Assessment of Symbiotic Bacteria from the Stored Grain Pest, *Tribolium castaneum* Microorganisms, 9, 1952. https://doi.org/10.3390/microorganisms 9091952 (IF- 4.926)

18. Bhosale, A.S., Abitkar, K.K., Sadalage, P.S., **Pawar, K. D**., Garadkar, K.M., (2021). Photocatalytic and antibacterial activities of ZnO nanoparticles synthesized by chemical method. J Mater Sci: Mater Electron 32, 20510–20524. https://doi.org/10.1007/s10854-021-06563-5 (IF-2.8)
19. Dar, M. A., Shaikh, A. F., **Pawar, K. D**., Xie, R., Sun, J., Kandasamy, S., & Pandit, R. S. (2021). Evaluation of cellulose degrading bacteria isolated from the gut-system of cotton bollworm, *Helicoverpa armigera* and their potential values in biomass conversion. PeerJ, 9: e11254. (IF-3.061)
20. Moholkar, D. N., Sadalage, P. S., Havaldar, D. V., **Pawar, K. D.** (2021). Engineeering the liposomal formulations from natural peanut phospholipids for pH and temperature sensitive release of folic acid, levodopa and camptothecin. Material science and Engineering C (123), 111979. (IF- 8.457)
21. Paiva-Santos A. N., Mascarenhas-Melo, F., Coimbra S.C., **Pawar K.D.**, Peixoto D., Chá-Chá R., RTS Araujo, A., Cabral C., Pinto S., & Veiga F., (2021). Nanotechnology-based formulations toward the improved topical delivery of anti-acne active ingredients, Expert Opinion on Drug Delivery, DOI: 10.1080/17425247.2021.1951218 **(IF-7.05) (Review)**
22. Kamble S.J., **Pawar K.D**., Kamble P.D., Patil J.M., Sawant V.J., (2021). Biogenic Capped Silver Nanoparticles in Lablal Purpureus Pod Extract Exhibit Selective Antibacterial and Synergistic Anticancer Activity. Adv.Mater. Lett.12(08)21081657 (IF-1)
23. Sadalage, P. S., Nimbalkar, M. S., Sharma, KK. K., Patil, P. S., **Pawar, K. D.** (2020). Sustainable approach to almond skin mediated synthesis of tunable selenium microstructures for coating cotton fabric to impart specific antibacterial activity. Journal of Colloid and Interface Science (569), 346-357. (IF-9.965)
24. Desai, M. P., Patil, R. V., Harke, S. S., & **Pawar, K. D.** (2020). Bacterium Mediated Facile and Green Method for Optimized Biosynthesis of Gold Nanoparticles for Simple and Visual Detection of Two Metal Ions. Journal of Cluster Science, 32(2): 341–350. **C** (IF-3.447)
25. Sadalage, P. S., Patil, R.V., Padvi, M. N., **Pawar, K. D.** (2020). Almond skin extract mediated optimally

	biosynthesized antibacterial silver nanoparticles enable selective and sensitive colorimetric detection of Fe^{+2} ions. Colloids and Surfaces B: Biointerfaces (193), 111084. (IF-5.999) 26. Havaldar, D. V., Moholkar, D. N., Magdum, P. S., Vadrale, A. P., **Pawar, K. D**. (2020). Differently synthesized gold nanoparticles respond differently to functionalization with L-amino acids. Particuology (52), 97-104. (IF 3.251) 27. Sangaonkar, G. M., Desai, M. P., Dongale, T. D., **Pawar, K. D.** (2020). Selective interaction between phytomediated anionic silver nanoparticles and mercury leading to amalgam formation enables highly sensitive, colorimetric and memristor-based detection of mercury. Scientific Reports (10), 2037. (IF-4.997) 28. Desai M. P., Patil, R.V., **Pawar, K. D**. (2020). Green biogenic approach to optimized biosynthesis of noble metal nanoparticles with potential catalytic, antioxidant and antihaemolytic activities. Process Biochemistry (98), 172-182. (IF-4.885) 29. Patil, R.V., **Pawar, K. D.** (2019). DNA based molecular markers discriminate genders of commercially important dioecious tree Kokum, *Garcinia indica* (choicy). Biocatalysis and Agricultural Biotechnology 21:101319 (IF-4.66) 30. Sadalage, P. S., Dar, M. A., Chavan, A. R., **Pawar, K. D.** (2020). Formulation of synthetic bacterial consortia and their evaluation by principal component analysis for lignocellulose rich biomass degradation. Renewable Energy (148), 467-477. (IF-8.7) 31. Desai M. P., **Pawar, K. D**. (2020). Immobilization of cellulase on iron tolerant *Pseudomonas stutzeri* biosynthesized photocatalytically active magnetic nanoparticles for increased thermal stability. Material science and Engineering C (106), 110169. ((IF- 8.457) 32. Desai M. P., Patil, R.V., **Pawar, K. D**. (2020). Selective and sensitive colorimetric detection of platinum using *Pseudomonas stutzeri* mediated optimally synthesized antibacterial silver nanoparticle. Biotechnology Reports (25), e00404. (IF-0.854) 33. Patil, R.V., **Pawar, K. D.** (2019). Comparative de novo flower transcriptome analysis of polygamodioecious tree Garcinia indica. 3 Biotech 9 (3) (IF-2.893) 34. Patil, R.V., **Pawar, K. D.** (2019). Differential Expression Pattern of MADS Box Genes in Floral Whorls of Garcinia indica. Journal of Crop Science and Biotechnology 22(4):363-369. (IF-1.6)

	35. Patil, R.V., **Pawar, K. D.** (2020). Comparative flower metabolomics analysis in polygamodioecious *Garcinia indica* choisy indicates flower gender type specific metabolite accumulation. Biocatalysis and Agricultural Biotechnology 30. (IF-4.66) 36. Walujkar S. A., Jadhav, S.P., Patil, S.S., Patil, S.C., Sharma, A.S., **Pawar, K. D**., (2019). Utilizing the iron tolerance potential of Bacillus species for biogenic synthesis of magnetite with visible light active catalytic activity Colloids and Surfaces B: Biointerfaces 177, 470-478 5 (IF-5.999) 37. S.S., Bhosale, Rohiwal, S.S., Chaudhary, L.S., **Pawar, K.D**., Patil, P.S., Tiwari A.P., (2019) Photocatalytic decolorization of methyl violet dye using Rhamnolipid biosurfactant modified iron oxide nanoparticles for wastewater treatment. Journal of Materials Science: Materials in Electronics 30 (5), 4590-4598 (IF-2.8) 38. Dar, M.A., **Pawar, K. D**., Chintalchere J.M., Pandit R.S., (2019). Statistical optimization of lignocellulosic waste containing culture medium for enhanced production of cellulase by *Bacillus tequilensis G9*. Waste Disposal & Sustainable Energy 1 (3), 213-226 (IF-NA) 39. Dar, M.A., **Pawar, K.D.,** Rajput, B.P., Rahi,P., Pandit R.S., (2019) Purification of a cellulase from cellulolytic gut bacterium, *Bacillus tequilensis* G9 and its evaluation for valorization of agro-wastes into added value byproducts. Biocatalysis and Agricultural Biotechnology 20, 101219. **(IF-4.66)** 40. Sangaonkar, G. M., **Pawar, K. D**. (2018). *Garcinia indica* mediated biogenic synthesis of silver nanoparticles with antibacterial and antioxidant activities. Colloids and Surfaces B: Biointerfaces (164), 210-217. **(IF-5.999)** 41. Desai M. P., Sangaonkar, G. M., **Pawar, K. D**. (2018). Kokum fruit mediated biogenic gold nanoparticles with photoluminescent, photocatalytic and antioxidant activities. Process Biochemistry (70), 188-197**. (IF 4.885)** 42. Dar, M.A., Shaikh, A.A., **Pawar, K. D**., Pandit R.S., (2018). Exploring the gut of *Helicoverpa armigera* for cellulose degrading bacteria and evaluation of a potential strain for lignocellulosic biomass deconstruction. Process Biochemistry 73, 142-153. (IF-4.885) 43. Dar, M.A., **Pawar, K. D**., Pandit R.S., (2018) Prospecting the gut fluid of giant African land snail, Achatina fulica for cellulose degrading bacteria. International Biodeterioration & Biodegradation 126, 103-111. (IF-

	4.8) 44. Gurme, S.T., Jadhav, P.P., **Pawar, K.D.**, Bapat, V.A., Jadhav J.P., (2018) Somatic embryogenesis and evaluation of genetic fidelity in *Amorphophallus paeoniifolius* (Dennst.) Nicolson. Journal of Crop Improvement 32 (6), 801-811. (IF-0.385)

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No of Research papers published in last 5 years	**126**	
Research Projects in last 5 years (Give details)	**<u>Total Resource Mobilization: 12.004 Cr.</u>** 2) Principal Investigator: Investigations on Ga Doping and GO Composite Induced Improved RS Behavior of Hydrothermally Grown ZnO Thin Film Memristive Device for RRAM Application, Research Initiation Scheme, Shivaji University, Kolhapur, Funding: 1.50 Lakh, 2018-21. 3) Co-Principal Investigator: Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching: National Resource Centre in Cyber Security and Data Sciences, Department of Higher Education, Ministry of Human Resource Development, Government of India, Funding: 6.95	

<table>
<tr><td></td><td colspan="4">Cr., 2018-22.
4) Co-Principal Investigator: RUSA and Industry Sponsored Centre for VLSI System Design, Rashtriya Uchchatar Shiksha Abhiyan (RUSA), Government of Maharashtra, Funding: 2.50 Cr., 2018-23.
5) Co-Principal Investigator: DST-Synergistic Training program Utilizing the Scientific and Technological Infrastructure (STUTI) Program, Department of Science & Technology, Ministry of Science & Technology, Government of India, Funding: 2.25 Cr., 2022-23.
6) Principal Investigator: Carbon-based highly reusable and regenerable magnetic adsorbent materials for efficient removal of universal pollutants, Research Strengthening Scheme, Shivaji University, Kolhapur, Funding: 2.90 Lakh, 2022-24.
7) Principal Investigator: Bionanocomposite Electrospun Nanofibers for Biocompatible and Biodegradable Artificial Synaptic Devices for Energy-Efficient Neuromorphic Computing Applications, Science and Engineering Research Board (SERB)-State University Research Excellence, Funding: 26 Lakhs, 2023-26.</td></tr>
<tr><td>Books Published (Details)</td><td colspan="4">1) Tukaram Dongale and R. K. Kamat, “A Treatise on Sensor Interfacing”, LAP LAMBERT Academic Publishing House, Germany, 2012, ISBN 978-3-659-12233-02012.
2) Tukaram Dongale, Vinod Shelake, R. K. Kamat, “Annals of Scholarly Research in Electronics”, LAP LAMBERT Academic Publishing House, Germany, 2012, ISBN 978-3-659-20391-6.
3) Nilima D. Thombare, Tukaram Dongale, R. K. Kamat, “ZigBee and RFID based System Design”, LAP LAMBERT Academic Publishing House, Germany, 2012, ISBN 978-3-8473-4366-0.</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">11</td></tr>
<tr><td>Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>Cumulative</td></tr>
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				Impact Factor
	3650+	**33**	**113**	**720**
Total no of Ph.D. Students	Awarded		Working	
	02		**03**	
Visits Abroad	South Korea.			
National/International Awards	**08**			
Selected Publications	1) V. C. Karade, S. S. Sutar, S. W. Shin, M. P. Suryawanshi, J. S. Jang, K. S. Gour, R. K. Kamat, J. H. Yun, **T. D. Dongale**, and J. H. Kim, Machine Learning Assisted Analysis, Prediction, and Fabrication of High-Efficiency CZTSSe Thin Film Solar Cells, *Advanced Functional Materials*, https://doi.org/10.1002/adfm.202303459, 2023, **IF-19 (Wiley)** 2) K. A. Nirmal, W. Ren, A. C. Khot, D. Y. Kang, **T. D. Dongale**, and T. G. Kim, Flexible Memristive Organic Solar Cell Using Multilayer 2D Titanium Carbide MXene Electrodes, *Advanced Science*, Vol. 10(19), 2300433, 2023. **IF-15.1 (Wiley)** **(Selected for Cover Image)** 3) N. B. Mullani, D. D. Kumbhar, D. H. Lee, M. J. Kwon, S. Y. Cho, N. Oh, E. T. Kim, **T. D. Dongale**, S. Y. Nam, J. H. Park, Surface Modification of a Titanium Carbide MXene Memristor to Enhance Memory Window and Low-Power Operation, *Advanced Functional Materials*, Vol. 33 (26), pp. 2300343, 2023, **IF-19 (Wiley)** 4) S. V. Patil, N. B. Mullani, K. Nirmal, G. Hyun, B. Alimkhanuly, R. K. Kamat, J. H. Park, S. Kim, **T. D. Dongale**, S. Lee, Spike-time dependent plasticity of tailored ZnO nanorod-based resistive memory for synaptic learning, *Journal of Science: Advanced Materials and Devices*, Vol. 8(4), pp. 100617, 2023. **IF- 8 (Elsevier)** 5) P. P. Patil, S. S. Kundale, S. V. Patil, S. S. Sutar, J. Bae, S. J. Kadam, K. V. More, P. B. Patil, R. K. Kamat, S. Lee, **T. D. Dongale**, Self-Assembled Lanthanum Oxide Nanoflakes by Electrodeposition Technique for Resistive Switching Memory and Artificial Synaptic Devices, *Small*, DOI: https://doi.org/10.1002/smll.202303862,			

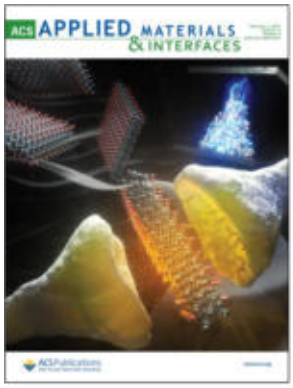
	2023. **IF-13.3 (Wiley) (Selected for Cover Image)** 6) S. A. Beknalkar, A. M. Teli, A. C. Khot, T. D. Dongale, M. A. Yewale, K. A. Nirmal, J. C. Shin, A new path to high-performance supercapacitors: Utilizing Ag-embedded CoFe-phosphate and Ti3C2 MXene as hybrid electrodes, *Journal of Energy Storage*, Vol. 72 (15), pp. 108272, 2023. **IF- 9.4 (Elsevier)** 7) R. E. Ustad, S. S. Kundale, K. A. Rokade, S. L. Patil, V. D. Chavan, K. D. Kadam, H. Patil, S. P. Patil, R. K. Kamat, D. Kim, **T. D. Dongale**, Recent progress in energy, environment and electronic applications of MXene nanomaterials, *Nanoscale*, Vol. 15, pp. 9891-9926, 2023. **IF- 6.7 (RSC) (Selected for Cover Image)** 8) A. R. Patil, **T. D. Dongale**, L. D. Namade, S. V. Mohite, Y. Kim, S. S. Sutar, R. K. Kamat, K Y. Rajpure, Sprayed FeWO4 thin film-based memristive device with negative differential resistance effect for non-volatile memory and synaptic learning applications, *Journal of Colloid and Interface Science*, Vol. 642, pp. 540-553, 2023. **IF-9.9 (Elsevier) (XRD data archived in the Crystallography Open Database, University of Cambridge)** 9) A. C. Khot, **T. D. Dongale**, K. A. Nirmal, J. K. Deepthi, S. S. Sutar, T. G. Kim, 2D Ti3C2Tx MXene-derived self-assembled 3D TiO2 nanoflowers for nonvolatile memory and synaptic learning applications, *Journal of Materials Science & Technology*, Vol. 150, pp. 1-10, 2023, **IF- 10.9 (Elsevier)** 10) A. M. Teli, S. A. Beknalkar, S. M. Mane, M. A. Yewale, **T. D. Dongale**, J. C. Shin, Synergetic effect of ternary MnVMo-oxide electrode by hydrothermal method for high-performance asymmetric supercapacitor, *Journal of Energy Storage*, Vol. 65, pp. 107289, 2023. **IF- 9.4 (Elsevier)** 11) H. Patil, H. Kim, K. D. Kadam, S. Rehman, S. A. Patil, J. Aziz, **T. D. Dongale**, Z. A. Sheikh, M. K. Rahmani, M. F. Khan, D. K. Kim, Flexible Organic–Inorganic Halide Perovskite-Based Diffusive Memristor for Artificial Nociceptors, *ACS Applied Materials & Interfaces*, Vol. 15 (10), pp. 13238–13248, 2023. **IF- 9.5 (Elsevier)** 12) T. R. Desai, S. S. Kundale, **T. D. Dongale**, C. Gurnani, Evaluation of Cellulose–MXene Composite Hydrogel Based Bio-Resistive Random Access Memory Material as Mimics for Biological Synapses, *ACS Applied Bio Materials*, Vol. 6(5), 1763–1773, 2023. **(ACS) (Selected for Cover Image)** 13) S. Anwer, Y. Abbas, F. Ravaux, D. H. Anjum, M. Rezeq, B. Mohammad, **T. D. Dongale**, K. Liao, W. Cantwell, D. Gan, L. Zheng, Cobalt oxide nanoparticles embedded in borate matrix: A

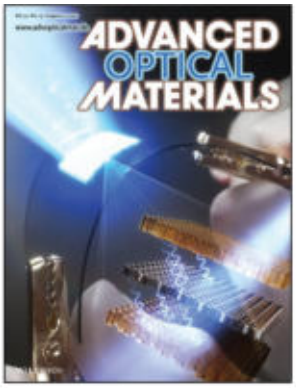
	conduction mode atomic force microscopy approach to induce nano-memristor switching for neuromorphic applications, *Applied Materials Today*, 29, pp. 101691, 2022. **IF-8.3 (Elsevier)** 14) G. S. Nhivekar, S. R. Jagdale, S. B. Kamble, B. T. Jadhav, R. K. Kamat, and **T. D. Dongale**, Versatile Three-in-One Single Beam Visible Colorimeter for Undergraduate Chemistry Laboratories, *Journal of Chemical Education*, Vol. 99(11), pp. 3765–3772, 2022. **IF- 3 (ACS)** 15) **T. D. Dongale**, S. S. Sutar, Y. D. Dange, A. C. Khot, S. S. Kundale, S. R. Patil, S. V. Patil, A. A. Patil, S. S. Khot, P. J. Patil, J. Bae, R. K. Kamat, T. G. Kim, Machine learning-assisted design guidelines and performance prediction of CMOS-compatible metal oxide-based resistive switching memory devices, *Applied Materials Today*, Vol. 29, pp. 101650, 2022. **IF- 8.3 (Elsevier)** 16) A. V. Kesavan, A. C. Khot, **T. D. Dongale**, K. R. Son, P. C. Ramamurthy and T. G. Kim, Graphite–Metal Composite Electrodes with a Tunable Work Function for Use in Optoelectronic Devices, *Journal of Materials Chemistry C*, Vol. 10, pp. 15358-15366. **IF-6.4 (RSC) (Selected for Cover Image)** 17) K. A. Nirmal, G. S. Nhivekar, A. C. Khot, **T. D. Dongale**, T. G. Kim, Unraveling the Effect of the Water Content in the Electrolyte on the Resistive Switching Properties of Self-Assembled One-Dimensional Anodized TiO2 Nanotubes, *Journal of Physical Chemistry Letters,* Vol. 13(33), pp. 7870-7880, 2022. **IF- 5.7 (ACS) (Selected for Cover Image)** 18) A. R. Patil, **T. D. Dongale**, R. K. Kamat, K. Y. Rajpure, Spray deposited zinc tungstate thin film for non-volatile memory application, *Materials Letters*, Vol. 322, pp. 132494, 2022. **IF- 3 (Elsevier) (XRD data archived in the Crystallography Open Database, University of Cambridge)** 19) S. S. Kundale, A. P. Patil, S. L. Patil, P. B. Patil, R. K. Kamat, D. Kim, T. G. Kim, **T. D. Dongale**, Effects of Switching Layer Morphology on Resistive Switching Behavior: A Case Study of Electrochemically Synthesized Mixed-Phase Copper Oxide Memristive Devices, *Applied Materials Today*, Vol. 27, pp. 101460, 2022. **IF- 8.3 (Elsevier)** 20) A. C. Khot, **T. D. Dongale**, K. A. Nirmal, J. H. Sung, H. J. Lee, R. D. Nikam, T. G. Kim, Amorphous Boron Nitride Memristive Device for High-Density Memory and Neuromorphic Computing Applications, *ACS Applied Materials & Interfaces*, Vol. 14(8), pp. 10546–10557, 2022. **IF- 9.5 (Elsevier)**

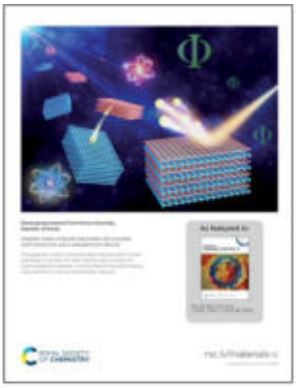
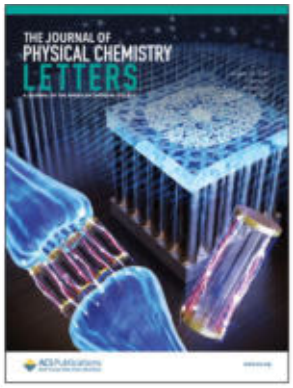
	21) A. R. Patil, **T. D. Dongale**, R. K. Kamat, K. Y. Rajpure, Spray pyrolysis deposited iron tungstate memristive device for artificial synapse application, *Materials Today Communications*, Vol. 29, pp. 102900, 2021. **IF- 3.8 (Elsevier)** **(XRD data archived in the Crystallography Open Database, University of Cambridge)** 22) A. V. Takaloo, H. J. Lee, T. H. Park, **T. D. Dongale**, Y. U. Kim, D. H. Choi, T. G. Kim, Haze-enhanced ZnO/Ag/ZnO nanomesh electrode for flexible, high-efficiency indoor organic photovoltaics, *Journal of Power Sources*, Vol. 515, pp. 230589, 2021. **IF- 9.2 (Elsevier)** 23) H. J. Lee, B. H. Kim, A. V. Takaloo, K. R. Son, **T. D. Dongale**, K. M. Lim, T. G. Kim, Haze-Suppressed Transparent Electrodes Using IZO/Ag/IZO Nanomesh for Highly Flexible and Efficient Blue Organic Light-Emitting Diodes, *Advanced Optical Materials*, Vol. 9 (15), pp. 2002010, 2021. **IF: 9 (Wiley)** **(Selected for Cover Image)** 24) P. D. Patil, S. R. Shingte, V. C. Karade, J. H. Kim, **T. D. Dongale**, S. H. Mujawar, A. M. Patil, P. B. Patil, Effect of annealing temperature on morphologies of metal organic framework derived $NiFe_2O_4$ for supercapacitor application, *Journal of Energy Storage*, Vol. 40, pp. 102821, 2021. **IF- 9.4 (Elsevier)** 25) J. H. Sung, J. H. Park, D. S. Jeon, D. Kim, M. J. Yu, A. C. Khot, **T. D. Dongale**, T. G. Kim, Retention enhancement through capacitance-dependent voltage division analysis in 3D stackable TaOx/HfO_2-based selectorless memristor, *Materials & Design*, Vol. 207, pp.109845, 2021. **IF- 8.4 (Elsevier)** 26) **T. D. Dongale**, A. C. Khot, A. V. Takaloo, and T. G. Kim, Facile synthesis of nickel cobaltite quasi-hexagonal nanosheets for multilevel resistive switching and synaptic learning applications, *NPG Asia Materials*, Vol. 13, pp. 16, 2021. **IF- 9.7 (Nature)** 27) A. C. Khot, **T. D. Dongale**, J. H. Park, A. V. Kesavan, and T. G. Kim, Ti3C2-Based MXene Oxide Nanosheets for Resistive Memory and Synaptic Learning Applications, *ACS Applied Materials & Interfaces*, Vol. 13 (4), pp. 5216–5227, 2021. **IF- 9.5 (ACS)** **(Selected for Cover Image)** 28) A. V. Kesavan, B. R. Lee, K. R. Son, A. C Khot, **T. D. Dongale**, V. Murugadoss, P. C. Ramamurthy, T. G. Kim, Work Function-Tunable Amorphous Carbon–Silver Nanocomposite Hybrid Electrode for Optoelectronic Applications, *ACS Applied Materials & Interfaces*, Vol. 13 (3), 4284–4293, 2021. **IF- 9.5 (ACS)** 29) **T. D. Dongale**, S. S. Khot, A. A. Patil, S. V. Wagh, P. B. Patil, D.

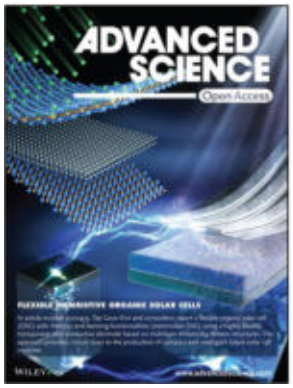
	P. Dubal, T. G. Kim, Bifunctional nanoparticulated nickel ferrite thin films: Resistive memory and aqueous battery applications, *Materials & Design*, Vol. 201, pp. 109493, 2021. **IF- 8.4 (Elsevier)** 30) **T. D. Dongale**, A. C. Khot, A. V. Takaloo, K. R. Son, T. G. Kim, Multilevel resistive switching and synaptic plasticity of nanoparticulated cobaltite oxide memristive device, *Journal of Materials Science & Technology*, Vol. 78, pp. 81-91, 2021. **IF- 10.9 (Elsevier)** 31) A. M. Teli, S. A. Beknalkar, D. S. Patil, S. A. Patil, D. D. Dubal, V. Y. Burute, **T. D. Dongale**, J. C. Shin, P. S. Patil, Effect of annealing temperature on charge storage kinetics of an electrospun deposited manganese oxide supercapacitor, *Applied Surface Science*, Vol. 511, pp. 145466, 2020. **IF- 6.7 (Elsevier)** 32) N. G. Yadav, L. S. Chaudhary, P. A. Sakhare, **T. D. Dongale**, P. S. Patil, A. D. Sheikh, Impact of Collected Sunlight on $ZnFe_2O_4$ Nanoparticles for Photocatalytic Application, *Journal of Colloid and Interface Science*, Vol. 527, pp. 289–297, 2018. **IF- 9.9 (Elsevier)** 33) A. C. Khot, N. D. Desai, K. V. Khot, M. M. Salunkhe, M. A. Chougule, T. M. Bhave, R. K. Kamat, K. P. Musselman, **T. D. Dongale**, Bipolar resistive switching and memristive properties of hydrothermally synthesized TiO_2 nanorod array: Effect of growth temperature, *Materials & Design*, Vol. 151, pp. 37–47, 2018. **IF- 8.4 (Elsevier)** 34) A. A. Bagade, V. V Ganbavle, S. V Mohite, **T. D Dongale**, B. B Sinha, K. Y Rajpure, Assessment of structural, morphological, magnetic and gas sensing properties of $CoFe_2O_4$ thin films, *Journal of Colloid and Interface Science*, Vol. 497, pp. 181–192, 2017, **IF- 9.9 (Elsevier)** 35) **T. D. Dongale**, P. J. Patil, N. K. Desai, P. P. Chougule, S. M. Kumbhar, P. P. Waifalkar, P. B. Patil, R. S. Vhatkar, M. V. Takale, P. K. Gaikwad, R. K. Kamat, TiO_2 based Nanostructured Memristor for RRAM and Neuromorphic Applications: A Simulation Approach, *Nano Convergence*, Vol. 3(1), pp. 1-7, 2016. **IF- 11.7 (Springer)**

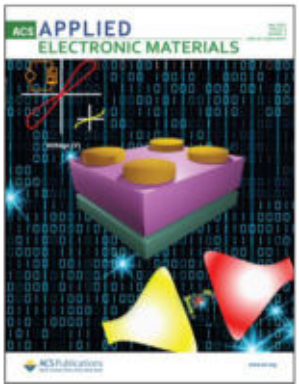
Journal Cover Images







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Research Areas	Gas sensor, Nanomaterials synthesis, Nanocoating.	
No of Research papers published in last 5 years	10	

<table>
<tr><td rowspan="2">Research Projects in last 5 years (Give details)</td><td colspan="2">Completed: 01</td><td colspan="2">Ongoing: 00</td></tr>
<tr><td colspan="2">Principal Investigator: “Nanoparticle sensitized 1D zinc oxide thin films for chemiresistive gas sensing application”, Research Initiation Scheme, Shivaji University, Kolhapur, Funding: 1.25 Lakh, 2018-21.</td><td colspan="2"></td></tr>
<tr><td>Books Published (Details)</td><td colspan="4">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">Nil</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>RG Score/ Research Interest Score</td></tr>
<tr><td>122</td><td>06</td><td>04</td><td>89.1</td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">Nil</td><td colspan="2">Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">No</td></tr>
<tr><td>National/International Awards</td><td colspan="4">Nil</td></tr>
<tr><td>Selected Publications (7)</td><td colspan="4">1. Hydrothermal synthesis of NO2 gas-sensitive and hydrophobic zinc oxide thin films, Journal of Materials Science: Materials in Electronics volume 32, pages 3140 –3154(2021) (IF:2.22), M N Padvi, N S Harale, P S Patil, S D Dhas, AV Moholkar.

2. Hydrothermal Assisted Synthesis of Micro-Bricks Shaped WO3 for Electrochemical Oxidation of</td></tr>
</table>

	Paracetamol: A Microstructured Paracetamol Sensor, Russian Journal of Electrochemistry (Vol. 56, No. 9, pp. 766–774) (IF.1.063), B B Kamble, A K Tawade, P N Kamble, **M N Padavi**, K K Sharma, B D Ajalkar, S N Tayade. 3. Almond skin extract mediated optimally biosynthesized antibacterial silver nanoparticles enable selective and sensitive colorimetric detection of Fe+2 ions, Colloids and Surfaces B: Biointerfaces (193 (2020) 111084) (IF: 4.389), P S Sadalage, R V Patil, **M N Padvi**, K D Pawar. 4. Bio-inspired synthesis of catalytically and biologically active palladium nanoparticles using Bos taurus urine, SN Applied Sciences, (doi.org/10.1007/s42452-020-2382-3) S R Prasad, **M N Padvi**, S S Suryawanshi, Y I Shaikh, L S Chaudhary, A P Samant, N R Prasad. 5. Bos taurus Urine Assisted Biosynthesis of CuO Nanomaterials: A New Paradigm of Antimicrobial and Antineoplatic Therapy, Micromolecular symposis, (DOI: 10.1002/masy.201900172), (IF: 0.68), **M N Padvi**, N G Hiremath, S R Prasad, A K Nayak, R A Bohara, Yasmin Attrar, A A Ramteke, Prashant Sarvalkar. 6. A critical review on design and development of gas sensing materials, Engineered Science, 2021, **MN Padvi**, AV Moholkar, SR Prasad, NR Prasad 7. A review on aspects of nanotechnology in food science and animal nutrition, ES Food & Agroforestry, 2022, Rai Dhirendra Prasad, AK Sahoo, Om Prakash Shrivastav, Naresh Charmode, Rakesh Kamat, N G Kajave, Jinesh Chauhan, Sunnera Banga, Ujma Tamboli, P M S, R H Atigre, Viquar Shaikh, M N Padvi, Prashant Salvalkar, Neeraj R Prasad

<table>
<tr><td>Name</td><td colspan="4">Dr. Sunilkumar Shankarrao Nirmale
M.Sc., Ph.D., SET</td><td>  </td></tr>
<tr><td>Designation</td><td colspan="5">Assistant Professor</td></tr>
<tr><td>Contact No.</td><td colspan="5">+91 9850828788</td></tr>
<tr><td>E-mail ID</td><td colspan="5">sunilnirmale123@gmail.com</td></tr>
<tr><td>Research Areas</td><td colspan="5">1. Nanoelectronics
2. Fuzzy Control Systems
3. Modelling and MATLAB Simulation</td></tr>
<tr><td>No of Research papers published</td><td colspan="5">13</td></tr>
<tr><td rowspan="2">Research Projects (Give details)</td><td colspan="2">Completed: Nil</td><td colspan="3">Ongoing: Nil</td></tr>
<tr><td colspan="2"></td><td colspan="3"></td></tr>
<tr><td>Books Published (Details)</td><td colspan="5">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="5">Nil</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td colspan="2">RG Score</td></tr>
<tr><td>84</td><td>3</td><td>1</td><td colspan="2">67</td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td>Awarded</td><td colspan="4">Working</td></tr>
<tr><td>Nil</td><td colspan="4">Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="5">No</td></tr>
</table>

National/International Awards	1. Awarded UGC BSR Meritorious Research Fellowship (JRF) from 24th October-2008 to 23rd, October-2010 at Department of Electronics, Shivaji University, Kolhapur. 2. Awarded UGC BSR Meritorious Research Fellowship (SRF) from 24th October-2010 to 23rd, October-2013 at Department of Electronics, Shivaji University, Kolhapur. 3. Awarded 2nd prize in oral presentation at Two Day National Conference FLAI-09 held on 10th & 11th January, 2009, organized by KBP College, Vashi, Navi Mumbai. 4. Awarded 1st prize in oral presentation at Two Day National Conference on "Recent Trends in Electronics & Communication Engineering" held on 24th and 25th September, 2010, organized by Ballari Institute of Technology & Management, Bellary, Karnataka.
Selected Publications	1. S. S. Nirmale, T. R. Kumbhar, A. S. Athanikar, R. R. Mudholkar, "Comparative Study of PID and FPD+I Controller of PVC Moisture-Free Temperature", published in International Journal of Current Engineering and Technology, Vol. 4, No. 4, 2014, pp. 2957-2964.
	2. S.S. Nirmale, A.C. Shaikh, H.V. Kulkarni, R.R. Mudholkar, "MATLAB Based TF Estimation and Verification of Moisture-Free PVC Temperature", International Conference on Recent Trends in Information Technology and Computer Science (2012), Proceedings published in International Journal of Computer Applications (IJCA), 2013, pp. 12-16.
	3. Tukaram R. Kumbhar, Sunil S. Nirmale, R. R. Mudholkar, "FPGA Implementation of Fuzzy Logic Controller for Temperature Control", International Journal of Computer Applications (IJCA), Vol. 62, No. 20, January 2013, pp. 19-23

	4. Sunil S. Nirmale, Tukaram R. Kumbhar, R. R. Mudholkar, "Fuzzy Based Decision System For Moisture-Free PVC Temperature", published in International Journal of Applied Engineering Research, Vol. 6, No. 12, 2011, pp. 1543-1554.
	5. G.S. Nhivekar, S.S. Nirmale, R.R. Mudholkar, "Implementation of fuzzy logic control algorithm in embedded microcomputers for dedicated application" published in journal of Engineering, Science and Technology, 2011, Vol. 3, No. 4, pp. 276-283.
	6. K.D. Attar, S.S. Nirmale, R.R. Mudholkar, "Temperature Optimization by Fuzzy Logic AC Voltage Control", International Conference in Recent Trends Proceedings published in International Journal of Computer Applications (IJCA), 2013, pp. 1-5in Information Technology and Computer Science (2012),
	7. Nhivekar G.S., Nirmale S.S., Mudholkar R.R., "A Survey of Fuzzy Logic Tools for Fuzzy–based System Design", International Conference in Recent Trends in Information Technology and Computer Science (2012), Proceedings published in International Journal of Computer Applications (IJCA), 2013, pp. 25-28
	8. Nikita A. Khairnar, Aditya A. Patil, Shreeya H. Rane, SunilS.Nirmale, Sandeep P.Shinde, RajanishK.Kamat, TukaramD.Dongale Deok-kee Kim "Resistive Switching Property of Bmim(Br) Ionic Liquid under the Influence of ZnO Nanorods", Journal of Nano- and Electronic Physics, January 2020.
	9. Amitkumar R. Patil, Tukaram D. Dongale, Sunil S. Nirmale, Rajanish K. Kamat, Keshav Y. "Bipolar resistive switching and memristive properties of sprayed deposited Bi2WO6 thin films", ELSEVIER Materials Today Communications, 28, 2021.

Name	Dr. Yojana Y. Patil	
Designation	Assistant Professor	
Contact No.	9049098227	
E-mail ID	yojana.yp@gmail.com , yyp.snst@unishivaji.ac.in .	
Research Areas	Pollution control and monitoring, Demography, Socio-econoic study, EnvironmentalNanotechnology, Water and waste water treatment	
No of Research papers published in last 5 years	08	
Research Projects in last 5 years (Give details)		
Books Published (Details)	Book Chapter: 03	
Patents/ IPR	Nil	

Scientific Merit	Citations	H-Index	i10-index	RG Score
	13	02	00	31.8

Total no of Ph.D. Students	Pursuing	Working
	Nil	Nil

Visits Abroad	Thailand
National/International Awards	Junior Reserach Fellowship of DAE-BRNS

Selected Publications 08	Padavi M., **Patil Y. Y**, Khot K., Patil P,S. Survey on Status and Experience of Students for "Learn from Home" during COVID-19 Lockdown in April 2020, Journal of Research and Development, vol 10, 103- 105.
	Yojana Y. Patil, Vaishnavi B. Sutar, Arpita P. Tiwari , "Green Synthesis Of Magnetic Iron Nanoparticles Using Medicinal Plant Tridax procumbens Leaf Extracts And Its Application As An Antimicrobial Agent Against E. coliInternational Journal of Applied Pharmaceutics, Impact Factor: 0.96,Volume 4,Year 2020,Pages 34-39. DOI https://doi.org/10.22159/ijap.2020.v12s4.40102.
	Patil Yojana Y. and Raut P. D. (2021) "Socio-economic status of Women in the Konkan region of Maharashtra" Gender, Technology and Empowerment post 1990s, ISBN: 978-81-951367-8-0.
	Abhilasha U. Deshpande, Pooja N. Sawant , **Yojana Y. Patil** (2021) "Study of effect of Air Pollution on Air Purifying plants of Kolhapur city, Maharashtra" Environment and Biodiversity Conservation Edition: Vol XXXVIII, Pages 1-9 (DOI: 10.55031/mshare.2021.38.Bd.1)
	Abhilasha U. Deshpande, Pooja N. Sawant , Shubham. R. Jadhav. and **Yojana Y. Patil** (2022) ""Green Building: Revolution of Sustainability in Construction Sector", Green Washing and Climate Change
	Priya R. Vasagadekar, Anup V. Gargate, **Yojana Y. Patil**, Prakash D. Raut, (2023) "Carbon sequestration potential of trees from urban green spaces of Kolhapur city, Maharashtra, India" Environment & Socio-economical Studies.,11(3), pages -22-32.DOI: 10.2478/environ-2023-0014
	Sayali Harke, Ajit Pawar, **Yojana Y Patil**, (2023), "Quality and Adulteration in Ethnic Spices and Food Ingredients in Local Market" International journal on food, agriculture and natural resources" vol 4(3), pages-21-26.DOI: 10.46676/ij-fanres.v4i3.155
	Pokharnikar N.B., A.S. Jadhav, Bhosale P.R., **Patil Y.Y.** and Raut P.D, (2023)."Studies on Degradation of Organic Food Waste, Municipal Solid Waste, and Agriculture Waste from Kolhapur, Maharashtra.ECOLOGY, ENVIRONMENT AND CONSERVATION VOL. 29 (November Suppl. Issue) (accepted in press)

Name	Dr. Pramod Jyotiram Kasabe	
Designation	Assistant Professor	
Contact No.	9764755681	
E-mail ID	pjk.snst@unishivaji.ac.in	
Research Areas	1. Bio-nanotechnology 2. Nano-biotechnology 3. Alternative Protein Research 4. Microbial Enzymology, 5. Microbial Killing Kinetics Studies 6. Bio-statistical process optimizations 7. Biosensors and Biomarkers 8. Protein Chemistry 9. Protein Biotechnology 10. Nano-medicines and delivery 11. Phyto-medicines and Drug designing studies	
No of Research papers published in last 5 years	02	
Research Projects in last 5 years (Give details)	Completed: Nil	Ongoing: Nil
Books Published (Details)	Nil	

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<tr><td>Patents/ IPR</td><td colspan="4">Nil</td></tr>
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<tr><td rowspan="2">Total no of
Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">Nil</td><td colspan="2">Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">No</td></tr>
<tr><td>National/International
Awards</td><td colspan="4">1. Awarded UGC BSR Research Fellowship (JRF) from 20th Aug. 2015 to 30th Sept. 2016 at Department of Biochemistry, Shivaji University, Kolhapur.

2. Awarded UGC Major Research Project Fellowship (SRF) from 1st Oct. 2014 to 30th June 2015 at Department of Biochemistry, Shivaji University, Kolhapur.

3. Awarded UGC Major Research Project Fellowship (JRF) from 1st Oct. 2012 to 30th Sept. 2014 at Department of Biochemistry, Shivaji University, Kolhapur.

4. Awarded for Best Poster Presentation in Fourth International Conference on Advances in Materials Science (ICAMS – 2020) organized by Post-Graduate Department of Physics, Raje Ramrao Mahavidyalaya, Jath during 20th – 21st January 2020.

5. Awarded 1 st prize in poster presentation at One day National Conference on “Recent Trends in Chemistry and Material Science (RTCMS-2019)” held on 9th February 2019, organized by Department of Chemistry, Shivaji University, Kolhapur, (MS), India.

6. Awarded 1 st prize in oral presentation at On Day National Conference on “Contemporary Research in Life Science and Cancer Biology” (CRiLC VGS2019), held on 19th January, 2019, organized by V. G. Shivdare</td></tr>
</table>

	College of Arts, Commerce and Science, Solapur (MS), India. 7. Awarded 1 st prize in poster presentation at National Conference on Innovative Research In Chemical Sciences (IRCS-2017), Organized by Department of Chemistry Shivaji University, Kolhapur-416004 (MS), India during 1-2, Feb., 2017. 8. Awarded best scientific sketch at Science sketch competition organized in the 5th Annual meeting of Proteomics Society India on Medical Proteomics held at Indian Institute of Science (IISc) from 28th – 30th November 2013. 9. Awarded 1 st prize in Model Presentation in National Science Day 2010, organized by Shivaji University, Kolhapur.
Selected Publications (10)	1. Apurva D. Patil, **Pramod J. Kasabe**, Padma B. Dandge. Pharmaceutical and nutraceutical potential of natural bioactive pigment: Astaxanthin. (2022). Natural Products and Bioprospecting. 12(24): 1-26
	2. Apurva D. Patil, **Pramod J. Kasabe**, Geetanjali Mali, Padma B. Dandge. Isolation and Characterization of Pigment Producing Micro-Organism from Soil. (2021). International Journal of Genetic Engineering and Recombination. 7(2): 28-37
	3. Shamkumar P. Deshmukh, Sajid B. Mullani, Valmiki B. Koli, Satish M. Patil, **Pramod J. Kasabe**, Padma B. Dandge, Sachin A. Pawar, Sagar D. Delekar, **(2018).** Ag Nanoparticles Connected to the Surface of TiO2 Electrostatically for Antibacterial Photoinactivation Studies. *Photochemistry and Photobiology,* 94 (6): 1249-1262.
	4. Geetanjali T. Mali, **Pramod J. Kasabe**, Padma Babulal Dandge, (2017). Statistically optimized production and characterization of vanillin from creosol using newly isolated *Klebsiella pneumoniae* P27. *Annals of Microbiology* 67 (11): 727–737.
	5. P. B. Dandge, **P. J. Kasabe**, S. S. Shinde, S. S. Patil and S. D. Kalasgonda, (2015). Biochemical assessment of nutraceutical from *Verbena bipinnatifida. Research Journal of Life sciences, Bioinformatics, Pharmaceutical,*

	and Chemical Sciences. 2 (1): 83-90**.**
	6. **Pramod J. Kasabe**, Geetanjali T. Mali and Padma B. Dandge, **(2015)**. Assessment of alkaline cholesterol oxidase purified from Rhodococcus sp. PKPD-CL for its halostability, detergent and organic solvent tolerance. *Protein Expression and Purification* 116 (2015) 30–41.
	7. Sowmya B. Jhample, Sanjivani B. Gajdhane, **Pramod J. Kasabe**, Prashant K. Bhagwat, Padma B. Dandge, (2015). Phytochemical screening and in vitro antimicrobial activity of *Tridax procumbens* L. *Research Journal of Life sciences, Bioinformatics, Pharmaceutical, and Chemical Sciences.* **1**(1): 42-51**.**
	8. P. K. Bhagwat, **P. J. Kasabe,** S. B. Jhample and P. B. Dandge, **(2013).** Friendly bacteria propping up legumes development in pesticide contaminated soil. *International Journal of Pharma and Biosciences.* **4** (3) (B): 356 – 364.
	9. **Pramod J Kasabe**, Pranit N Patil, Dayanand D Kamble, Padma B Dandge, **(2012)**. Nutritional, elemental analysis and antioxidant activity of garden cress (*Lepidium sativum* L.) seeds. *International Journal of Pharmacy and Pharmaceutical Sciences.* **4** (3): 392-395.
	10. P B Dandge, **P J Kasabe** and R M Patil, **(2011)**. Evaluation of medicinal and nutritional components from the *Eleagnus conferta* fruit. *Science Research Reporter* 1(2): 56-60.

Name	**Dr. T. S. Bhat**	
Designation	Assistant Professor	
Contact No.	Mo: +91-7057689522	
E-mail ID	bhattejasvinee@gmail.com	
Research Areas	Energy conversion and storage devices, Optoelectronics, Advanced functional nanomaterials, Thin film	

<table>
<tr><td rowspan="2">No. of Research papers published (National/ International)</td><td colspan="2">Total</td><td colspan="2">Last 5 Years</td></tr>
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<tr><td></td><td>02</td><td>45</td><td>01</td><td>36</td></tr>
<tr><td rowspan="2">Research Projects</td><td colspan="2">Project’s Title</td><td>Funding Agency</td><td>Status Ongoing/ Completed</td><td>Amount</td></tr>
<tr><td colspan="2">NIL</td><td>NIL</td><td>NIL</td><td>NIL</td></tr>
<tr><td rowspan="2">No. of Books / Chapters Published</td><td colspan="2">National</td><td colspan="3">International</td></tr>
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<tr><td rowspan="2">Patents/ IPR</td><td colspan="2">Filed</td><td colspan="3">Awarded</td></tr>
<tr><td colspan="2">NIL</td><td colspan="3">NIL</td></tr>
<tr><td rowspan="2">Research Impact</td><td>Citations</td><td>h- Index</td><td>i-10 Index</td><td>RG Score</td><td>Highest Impact factor of a paper as per Thomson Reuters</td></tr>
<tr><td>935</td><td>19</td><td>26</td><td>581.9</td><td>15.1</td></tr>
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NIL</td></tr>
<tr><td>Total No. of M. Phil. Students</td><td colspan="2">Awarded
NIL</td><td colspan="3">Working
NIL</td></tr>
<tr><td>Visits Abroad</td><td colspan="5">NIL</td></tr>
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National/ International Awards/ Fellowships	01
Top 10 Publications	1. Kulkarni, A.A., Gaikwad, N.K., Salunkhe, A.P., Dahotre, R.M., Bhat*, T.S. and Patil, P.S., 2023. An ensemble of progress and future status of piezo-supercapacitors. Journal of Energy Storage, 65, p.107362. 2. Bhat, T.S., Patil, P.S. and Rakhi, R.B., 2022. Recent trends in electrolytes for supercapacitors. Journal of Energy Storage, 50, p.104222. 3. Bhat, T.S., Mali, S.S., Patil, J.V., Killedar, S.T., Desai, T.R., Patil, A.N., Hong, C.K., Dongale, T.D. and Patil, P.S., 2020. Nanogranular Cadmium Sulfoselenide Thin Films Grown by Successive Ionic Layer Adsorption and Reaction Method for Optoelectronic Applications. physica status solidi (a), 217(15), p.2000002. 4. Bhat, T.S., Mali, S.S., Sheikh, A.D., Tarwal, N.L., Korade, S.D., Hong, C.K., Kim, J.H. and Patil, P.S., 2018. ZnS passivated PbSe sensitized TiO_2 nanorod arrays to suppress photocorrosion in photoelectrochemical solar cells. Materials Today Communications, 16, pp.186-193. 5. Teli, A.M., Bhat, T.S., Beknalkar, S.A., Mane, S.M., Chaudhary, L.S., Patil, D.S., Pawar, S.A., Efstathiadis, H. and Shin, J.C., 2022. Bismuth manganese oxide based electrodes for asymmetric coin cell supercapacitor. Chemical Engineering Journal, 430, p.133138. 6. Bhat, T.S., Mali, S.S., Sheikh, A.D., Korade, S.D., Pawar, K.K., Hong, C.K., Kim, J.H. and Patil, P.S., 2017. TiO_2/PbS/ZnS heterostructure for panchromatic quantum dot sensitized solar cells synthesized by wet chemical route. Optical Materials, 73, pp.781-792.

	7. Bhat, T.S., Mali, S.S., Korade, S.D., Shaikh, J.S., Karanjkar, M.M., Hong, C.K., Kim, J.H. and Patil, P.S., 2017. Mesoporous architecture of TiO_2 microspheres via controlled template assisted route and their photoelectrochemical properties. Journal of Materials Science: Materials in Electronics, 28(1), pp.304-316. 8. Bhat, T.S., Devan, R.S., Mali, S.S., Kamble, A.S., Pawar, S.A., Kim, I.Y., Ma, Y.R., Hong, C.K., Kim, J.H. and Patil, P.S., 2014. Photoelectrochemically active surfactant free single step hydrothermal mediated titanium dioxide nanorods. Journal of Materials Science: Materials in Electronics, 25(10), pp.4501-4511. 9. Bhat, T.S., Shinde, A.V., Devan, R.S., Teli, A.M., Ma, Y.R., Kim, J.H. and Patil, P.S., 2018. Structural and electrochemical analysis of chemically synthesized microcubic architectured lead selenide thin films. Applied Physics A, 124(1), pp.1-7. 10. Pawar, K.K., Chaudhary, L.S., Mali, S.S., Bhat, T.S., Sheikh, A.D., Hong, C.K. and Patil, P.S., 2020. In_2O_3 nanocapsules for rapid photodegradation of crystal violet dye under sunlight. Journal of colloid and interface science, 561, pp.287-297.

Name	Dr. Sushilkumar A. Jadhav	
Designation	Assistant Professor	
Contact No.	7219761821	
E-mail ID	sushil.unige@gmail.com	

<table>
<tr><td>Research Areas</td><td colspan="4">Polymer nanocomposites and polymer grafted functional nanomaterials and carbonaceous materials for drug delivery, nanocatalysis, nanotextiles, energy storage, photocatalysis, environmental remediation & microwave absorption applications.</td></tr>
<tr><td>No of Research papers published in last 5 years</td><td colspan="4">42</td></tr>
<tr><td rowspan="2">Research Projects in last 5 years (Give details)</td><td colspan="2">Completed: Nil</td><td colspan="2">Ongoing: Nil</td></tr>
<tr><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td>Books Published (Details)</td><td colspan="4">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">Nil</td></tr>
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<tr><td rowspan="2">Total no of Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">Nil</td><td colspan="2">Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">France, Italy, Germany, U.K.</td></tr>
<tr><td>National/International Awards</td><td colspan="4">2</td></tr>
<tr><td rowspan="2">Selected Publications (10)</td><td colspan="4">In situ Fe_3O_4 loaded sonochemically functionalized multi-walled CNTs and RGO based composites as electrode materials for supercapacitors. Thoravat S. S.; Patil V. S.; Kundale S. S.; Dongale T. D.; Patil P. S.; Jadhav S. A.* Synthetic Metals, 2023, 294, 117312.</td></tr>
<tr><td colspan="4">Valorization of rice husk to value-added chemicals and functional materials. Rajamani S.; Navya Kolla S. S.; Raghunath R.; Gudivada R. Ramesh K. Jadhav S. A.* Int. J. Environ. Res., 2023, 17, 22.</td></tr>
</table>

	α-Manganese dioxide (α-MnO_2) coated with polyaniline (PANI) and reduced Graphene oxide (rGO) based nanocomposite for supercapacitor application. Patil P. H.; Kulkarni V. V.; Dongale T. D. Jadhav S. A.* *J. Composites Sci.* **2023**, 7, 167.
	Ficus Benghalensis leaf extract mediated Fe_3O_4 derived Fe_3O_4@Ag-S-CH_2-COOH: A novel core shell catalyst for unique 3,4-dihydropyrimidin-2(1H)-ones and their atnticancer activity. Gurav R.; Gurav A.; Gawali S.; Jadhav S. A.; Choudhari P.; Sankpal S.; Hangirgekar S. *Appl. Organomet. Chem*., **2022**, 36, e6547.
	ZnO nanorods-grafted durable antibacterial and hydrophobic cotton fabrics by a new grafting protocol. Patil A. H.; Jadhav S. A.*; Magdum S. S.; Sonawane K. D.; Patil P. S. *Inorg. Chem. Commun*., **2022**, 144, 109947.
	α-MnO_2 nanorods-polyaniline (PANI) nanocomposites synthesized by polymer coating and grafting approaches for screening EMI pollution. Kulkarni G. K.; Jadhav S. A.*; Patil K. T.; Patil P. S.; Puri V. R. *Ceramics Int*., **2021**, *47*, 15044-15051.
	Recent advancements in silica nanoparticles based technologies for removal of dyes from water. Jadhav S. A.*; Garud H. B.; Patil A. H.; Patil G. D.; Patil C. R.; Dongale T. D.; Patil P. S. *Colloids Interf. Sci. Commun*., **2019**, *30*, 100181.
	Synthesis and in vitro testing of thermoresponsive polymer-grafted core-shell magnetic mesoporous silica nanoparticles for efficient controlled and targeted drug delivery. Perlata, M.; Jadhav S. A.*; Carlos L.; Magnacca G.; Scalarone D. *J. Colloid Interf. Sci.,* **2019**, *544*, 198.

	Poly(*N*-isopropylacrylamide) (PNIPAM) based synthetic hydrogels as novel precipitation and stabilization media for solid lipid nanoparticles (SLNs). Jadhav S. A.*; Brunella V.; Sapino S.; Caparelli B.; Gallarate M. *J. Colloid Interf. Sci.*, **2019,** *541*, 454.
	Poly(*N*-isopropylacrylamide) Thermally triggered on demand permeability of hybrid silica beds made of packed thermoresponsive organosilica microparticles. Jadhav S. A.*; Spaletta V.; Scalarone D. *Express Polym. Lett*. **2019**, *13*, 84

Name	Dr. Suryabala Anand Sawant	
Designation	Assistant Professor	
Contact No.	+91 8793809207	
E-mail ID	surybala.7@gmail.com	
Research Areas	Organic synthesis, NAnomaterial synthesis for various applications, Study and applications of biodegradable waste	
No of Research papers published in last 5 years	05	
Research Projects in last 5 years (Give details)	Completed: Nil	Ongoing: Nil
Books Published (Details)	01	

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<tr><td>376</td><td>10</td><td>11</td><td>258.0</td></tr>
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Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">Nil</td><td colspan="2">Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">No</td></tr>
<tr><td>National/International
Awards</td><td colspan="4">1. DST-PURSE Research Fellowship, 2011-12.
2. UGC-BSR Junior Research Fellowship, 2012-14.
3. First prize in oral presentation at National Conference on “Frontiers in Agrochemicals and Pest Management”, Department of Agrochemicals and Pest Management, Shivaji University, Kolhapur, Maharashtra (India), January 2015.
4. Third prize in poster presentation at International Conference on “Advances in Chemical Sciences”, Department of Chemistry, Shivaji University, Kolhapur, February 2018.</td></tr>
<tr><td rowspan="2">Selected
Publications</td><td colspan="4">D. V. Chougule, K. D. Patil, P. P. Desai, A. D. Sawant, S. A. Sawant, “Fe3O4 -Cu photocatalyst for chemoselective reduction of 5-nitroisopthalic acid” International Journal of Scientific Research in Engineering and Management, Vol. 7, Issue 3, 2023.</td></tr>
<tr><td colspan="4">C. S. Patil, D. B. Gunjal, V. M. Naik, N. S. Harale, S. D. Jagadale, A. N. Kadam, P. S. Patil, G. B. Kolekar and A. H. Gore, “Waste tea residue as a low-cost adsorbent for removal of hydralazine hydrochloride pharmaceutical pollutant from aqueous media: An environmental remediation” Journal of Cleaner Production, 206, 407, 2019.</td></tr>
</table>

	S. D. Jagadale, Aviraj M. Teli, Sonali V. Kalake, Abhijeet Yadav and P. S. Patil, **"Functionalized Crown Ether Assisted morphologicall tuning of CuO Nanosheets for Electrochemical Supercapacitors"** Journal of Electroanalytical Chemistry, 816, 99, 2018.
	S. D. Jagadale, A. D. Sawant and M. B. Deshmukh, **"Synthesis and Antimicrobial Evaluation of Novel Dibenzo-18-Crown-6-Ether Functionalized Pyrimidines"** Journal of Heterocyclic Chemistry, 54, 2307, 2017.
	S. D. Jagadale, A. D. Sawant and M. B. Deshmukh, **"Synthesis of Dibenzothiazolyldibenzo-18-Crown-6 and its Applications in Colorimetric Recognition of Palladium and as Antimicrobial Agent"** Journal of Heterocyclic Chemistry, 54, 161, 2017.
	S. D. Jagadale, A. D. Sawant, P. P. Patil, D. R. Patil, A. G. Mulik, D. R. Chandam, S. A. Sankpal and M. B. Deshmukh, **"Synthesis of Novel Dibenzo-18-Crown-6-Ether Functionalized Benzimidazoles and it's Applications in Colorimetric Recognition to Hg^{2+} and as Antifungal Agents"** Journal of Heterocyclic Chemistry, 52, 468, 2015. **S. D. Jagadale**, A. D. Sawant, P. P. Patil, D. R. Patil, A. G. Mulik, D. R. Chandam, S. A. Sankpal and M. B. Deshmukh, **"Synthesis of Some Novel Quinone Diimine Derivatives of Benzo-15-Crown-5 for Application in Hg^{2+} Recognition"** Luminescence, 29, 586, 2014.
	S. D. Jagadale, A. G. Mulik, D. R. Chandam, P. P. Patil, D. R. Patil, S. A. Sankpal, A. D. Sawant and M. B. Deshmukh, **"Synthesis of Some Novel 3,5-Diarylpyrazole Derivatives of Dibenzo-18-Crown-6-Ether"** Indian Journal of Chemistry: B, 52, 1352,

	2013.
	S. D. Jagadale, A. G. Mulik, D. R. Chandam, P. P. Patil, D. R. Patil, S. A. Sankpal and M. B. Deshmukh, **"Crown Ether complex Cation Like Ionic Liquids: Synthesis and Catalytic Applications in Organic Reaction"** Der Pharma Chemica, 4, 202, 2012.

Name	Dr. Megha Prakash Desai		
Designation	Assistant Professor		
Contact No.	9075140860		
E-mail ID	desaimeghap@gmail.com		
Research Areas	Biotechnology,Nanobiotechnology Biogenic synthesis of metal and metal oxide nanoparticles and their application in biomedical field,biosensing.		
No of Research papers published in last 5 years	7		
Research Projects in last 5 years (Give details)	Completed: Nil	Ongoing: Nil	

<table>
<tr><td>Books Published (Details)</td><td colspan="4">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">‘Biomolecule mixture for biogenic synthesis of metal nanoparticles’

Indian patent application No.-202121045333A (Granted)

International patent- PCT/IN2021/051188 (Published)</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>RG Score</td></tr>
<tr><td>190</td><td>6</td><td>5</td><td></td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">Nil</td><td colspan="2">Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">No</td></tr>
<tr><td>National/International Awards</td><td colspan="4">CSIR-UGC NET Junior and Senior research fellowships</td></tr>
<tr><td rowspan="3">Selected Publications (7)</td><td colspan="4">Iron tolerant Bacillus badius mediated bimetallic magnetic iron oxide and gold nanoparticles as Doxorubicin carrier and for hyperthermia treatment. Desai M.P., Paiva-Santos A.C., Nimbalkar M.S., Sonawane K.D., Patil P.S., Pawar K.D. (2023) Journal of Drug Delivery Science and Technology (81),104214 (IF-5.06)</td></tr>
<tr><td colspan="4">Bacterium Mediated Facile and Green Method for Optimized Biosynthesis of Gold Nanoparticles for Simple and Visual Detection of Two Metal Ions. Desai M. P., Patil R. V., Harke S. S., Pawar K. D. (2021). Journal of Cluster Science, 32(2): 341–350. C (IF-3.44)</td></tr>
<tr><td colspan="4">Selective interaction between phytomediated anionic silver nanoparticles and mercury leading to amalgam formation enables</td></tr>
</table>

	highly sensitive, colorimetric and memristor-based detection of mercury. Sangaonkar G.M., **Desai M.P.**, Dongale T.D., and Pawar K.D. Scientific Reports 10,2037 (2020) **(IF 3.99)**
	Selective and sensitive colorimetric detection of platinum using *Pseudomonas stutzeri* mediated optimally synthesized antibacterial silver nanoparticles. **Desai M.P.**, Patil R.P., Pawar K.D. Biotechnology Reports, 25 (2020)
	Immobilization of cellulase on iron tolerant *Pseudomonas stutzeri* biosynthesized photocatalytically active magnetic nanoparticles for increased thermal stability. **Desai M.P.**, Pawar K.D. Material Science and Engineering C, 106 (2020) **(IF 7.3)**
	Green biogenic approach to optimized biosynthesis of noble metal nanoparticles with potential catalytic, antioxidant and antihaemolytic activities. **Desai M.P.**, Patil R.P., Pawar K.D. Process Biochemistry 98, 172-182 (2020) **(IF 3.7)**
	Kokum fruit mediated biogenic gold nanoparticles with photoluminescent, photocatalytic and antioxidant activities. **Desai M.P.,** Sangaonkar G.M., Pawar K.D. Process Biochemistry 70, 188-197 (2018) **(IF 3.7)**

<table>
<tr><td>Name</td><td colspan="4">Mr. Chavan Navnath Kashinath</td><td>  </td></tr>
<tr><td>Designation</td><td colspan="5">Assistant Professor</td></tr>
<tr><td>Contact No.</td><td colspan="5">+91 9403867356</td></tr>
<tr><td>E-mail ID</td><td colspan="5">nkc.snst@unishivaji.ac.in
chavannavnath1985@gmail.com</td></tr>
<tr><td>Research Areas</td><td colspan="5">1. Solar Cell Application
2. Thin film physics
3. Aerogel</td></tr>
<tr><td>No of Research papers published</td><td colspan="5">02</td></tr>
<tr><td rowspan="2">Research Projects (Give details)</td><td colspan="2">Completed: Nil</td><td colspan="3">Ongoing: Nil</td></tr>
<tr><td colspan="2"></td><td colspan="3"></td></tr>
<tr><td>Books Published (Details)</td><td colspan="5">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="5">Nil</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td colspan="2">RG Score</td></tr>
<tr><td>70</td><td>1</td><td>1</td><td colspan="2">43.2</td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td>Awarded</td><td colspan="4">Working</td></tr>
<tr><td>Nil</td><td colspan="4">Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="5">No</td></tr>
</table>

National/International Awards	Nil
Selected Publications	1. Monolithic and shrinkage-free hydrophobic silica aerogels via new rapid supercritical extraction process DB Mahadik, YK Lee, NK Chavan, SA Mahadik, HH Park The Journal of Supercritical Fluids 107, 84-91
	2. Room temperature synthesis of nanocrystalline CuInSe2 thin films by electrodeposition Chavan Navnath K., Pawar Sachin J., Nimat Rajesh K. AIP Conference Proceedings 2265 (1), 030054-01 - 030054-04

Name	Prof. (Dr.) Krishna K. Pawar	
Designation	Assistant Professor	
Contact No.	+91 7620565361	
E-mail ID	kkp.snst@unishivaji.ac.in	
Research Areas	Gas sensing, and nanomaterial synthesis	
No of Research papers published in last 5 years	25	

<table>
<tr><td>Research Projects in last 5 years (Give details)</td><td colspan="2">Completed: 0</td><td colspan="2">Ongoing: 00</td></tr>
<tr><td>Books Published (Details)</td><td colspan="4">Incorporation of nanocarriers as antimicrobial agents in the food packaging, Nanotechnology in intelligent food packaging, Scrivener, publishing, California</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">Nil</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>RG Score</td></tr>
<tr><td>402+</td><td>12</td><td>13</td><td>-</td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">00</td><td colspan="2">0</td></tr>
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Selected Publications	J. S. Shaikh, N. S. Shaikh, S. S. Mali, J. V. Patil, K. K. Pawar, P.Kanjanaboos, C. K. Hong, J. H. Kim, P. S. Patil, Nanoarchitectures in dyesensitized solar cells: Metal oxides, Oxide Perovskites and Carbon based Materials, nanoscale,10 (11), 4987-5034. (IF= 8.307) K. K. Pawar, V. L. Patil, N. L. Tarwal, N. S. Harale, J. H. Kim, P. S. Patil,Facile green synthesis of In2O3 cubes and its NO2 gas sensingproperties, Journal of Material science: Materials in Electronics, 29 (17),14508-14518. (IF= 2.779) T. D. Dongale, N. B. Mullani, A. M. Patil, A. A. Bagade, K. K. Pawar, K. V.Khot,S. S. Shinde,V. L. Patil, S.A. Vanalkar, A. V. Moholkar, P. N. Bhosale,P. S. Patil R. K.Kamat, Mimicking the Biological Synapse Functions of Analog Memory, Synaptic Weights, and Forgetting with ZnO-BasedMemristive Devices, Journal of nanoscience and technology, 18 (11),7758-7766. (IF= 1.354) K. K. Pawar, D. Desai, S. Bodake, H. Patil, S. More, A. Nimbalkar,S. Mali, C.Hong,S. Kim,P. S. Patil, T. Dongale, Highly reliable multi-level resistiveswitching in nanoparticulated In2O3 thin film memristive dvice, Journalof Physics D: Applied Physics, 52 (17), 175306. (IF= 3.409) A. D. Shaikh, V. Vhanalkar, A. Katware, K. K. Pawar, P. S. Patil, Two-stepAnti-Solvent Precipitated MAPbI3 Pellet Based Robust RoomTemperature Ammonia Sensor, Advanced Materials Technologies, 4 (9),1900251. (IF= 8.856) K. K. Pawar, J. S. Shaikh, S. S. Mali, Y. H. Navale, V. B. Patil, C. K. Hong,P. S. Patil, Hollow In2O3 microcubes for sensitive and selectivedetection of NO2 gas, Journal of Alloys and Compounds, 806, 726-736.(IF= 6.371) K. K. Pawar, L. S. Chaudhary, S. S. Mali, T. S. Bhat, A. D. Sheikh, C. K.Hong, P. S. Patil, In2O3 nanocapsules for rapid photodegradation ofCrystal violet dye under sunlight, Journal of Colloid and InterfaceScience, 561, 287-297. (IF= 9.965) S. S.Mane, S. M. Patil, K. K. Pawar, M. D. Salgaonkar, P. Jagdale,

Name	**Dr. Kishorkumar V. Khot**	
Designation	Assistant Professor	
Contact No.	+919921297575/ +917776877575.	
E-mail ID	khotkishor75@gmail.com	
Research Areas	Materials Science, Smart Materials, Mixed Metal Chalcogenides and Oxides, Thin Film Science, Energy Harvesting Materials, Nanomaterials and Nanotechnology.	
No of Research papers published in last 5 years	**70**	
Research Projects in last 5 years (Give details)	-	
Books Published (Details)	1. Mixed Metal Chalcogenide Thin Films for Energy Harvesting. **K. V. Khot**, P. N. Bhosale. LAP LAMBERT Academic Publishing, Omni Scriptum GmbH & Co. KG, Business, Germany, ISBN: 978-3-659-67297-2, (2017). 2. Synthesis and Fabrication of Nanomaterials Synthesis and Characterization of Highly Ordered Nanosized PbS Thin Films: Modified SILAR. **K. V. Khot**, V. B. Ghanwat, P. B. Patil, C. S. Bagade, R. M. Mane, D. B. Shinde, S. K. Jagadale, P.N. Bhosale. BLOOMSBURY PUBLISHING INDIA PVT, LTD. New Delhi London, Oxford, New York, Sydney ISBN: 978-93-85436-76-510987654321, (2015). 3. Environmentally Benign Protocols for the Synthesis of Transition Metal Oxide: A Brief Outlook. **K. V. Khot,** N. D. Desai, T. D. Dongale, A. Khot, P. S. Patil, P. N. Bhosale Composites for Environmental Engineering, John Wiley & Sons, 383, (2019).	

<table>
<tr><td>Patents/ IPR</td><td colspan="4">-</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>Researchgate Score</td></tr>
<tr><td>1191</td><td>22</td><td>36</td><td>766</td></tr>
<tr><td rowspan="2">Total no of
Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">-</td><td colspan="2">-</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">South Korea.</td></tr>
<tr><td>National/International
Awards</td><td colspan="4">1. “Shivaji University Merit Scholarship” in the faculty of science, (2012).
2. “International Student Exchange Fellowship” for Ph.D. study at Chonnam National University, Gwangju, South Korea, (2013).
3. “DST-INSPIRE Fellow”, Department of Science and Technology, Govt. of India, (2014).
4. First Prize in Best Poster presentation at FCMS-2015 Conference, Department of Chemistry, Shivaji University, Kolhapur, (2015).
5. Guided more than 10 M. Sc Applied/Inorganic Chemistry Project students.
6. Guided more than 10 B. Tech Engineering Project students.
7. Reviewer of various International Research Journals.
8. Editorial and Advisory Board Member of various Scientific Journals.
10. Appointed as Head of the Department of Basic Sciences and Humanities, Sharad Institute of Technology, College of Engineering, Yadrav, (2017-2019).
11. Appointed as External Examiner, DBATU University, Lonere, (2017-2019).
12. Worked as Coordinator, ISO 9001:2015 at SITCOE, Yadrav, (2017-2018).
13. Best Oral Presentation award at International Conference organized by Bharati Vidyapeeth, Pune, (2018).
14. Appreciation letter as a Student Oriented Teacher from SITCOE based on Student feedback (2017-2019).
15. Best Teacher Award by Sharad Institute of Technology, College of Engineering, Yadrav (2019).
16. Shivgaurav Puraskar-2019, Ingali.
17. One of the projects was shortlisted in Top 30 in India, during KPIT Sparkle-2019 competition, Pune, India.
18. Appointed as Expert for Faculty recruitment program of Science & Humanities, Sharad Institute of Technology, Polytechnic, Yadrav, (2019).
19. Selected for “YOUNG SCIENTIST CONFERENCE” in India International Science Festival 2019 (IISF-2019) at Kolkata during (2019).
20. Best Oral Presentation award at International Conference (MAICS-22) organized by Yashwantrao Chavan Institute of Science, Satara (2022).</td></tr>
</table>

Selected Publications	1. S. S. Patil, **K. V. Khot,** S. S. Mali, C. K. Hong, P. N. Bhosale Investigating the Role of Selenium Ion Concentration on Optoelectronic Properties of the Cu2ZnSn (S1-xSex) 4 Thin Films. *Ind. Eng. Chem. Res. 2020, 59, 23, **(2020)**, 10868–10881.* 2. S. S. Patil, **K. V. Khot**, S. S. Mali, C. K. Hong, P. N. Bhosale. Surfactant Assisted Approach to Development of Efficient WO3 Photoanode for Natural Dye Sensitized Solar Cells. *Solar Energy Solar energy, 220, **(2021)**, 371-383.* 3. D. B. Patil, V. L. Patil, S. S. Patil, T. D. Dongale, N. D. Desai, P. R. Patil, R. M. Mane, P. N. Bhosale, P. S. Patil, P. M. Kadam, **K. V. Khot*.** Facile synthesis of MoO3 nanoplates based NO2 gas sensor: ultra-selective and sensitive. *Chemical Physics Letters, 782, **(2021)**, 139025.* 4. P. R. Patil, S. S. Patil, T. D. Dongale, R. M. Mane, S. S. Patil, S. S. Mali, C. K. Hong, P. N. Bhosale, J. Heo and **K. V. Khot*.** Hydrothermally synthesized nanocrystalline photoactive SnS2 thin films: effect of surface directing agents. *New Journal of Chemistry, **(2022),** DOI: 10.1039/d1nj04361g.* 5. S. S. Patil, S. N. Nadaf, **K. V. Khot,** R. M. Mane, S. S. Mohite S. S. Mali, C. K. Hong P. N. Bhosale. An efficient Cu2Zn1−xInxSn(S,Se)4 multicomponent photocathode via one-step hydrothermal approach for thin film solar cell. *Journal of Materials Chemistry C, **(2022)**, 10 (9), 3447-3460.*

<table>
<tr><td>Name</td><td>Dr. Akhilesh Pramod Patil</td><td colspan="3">  </td></tr>
<tr><td>Designation</td><td colspan="4">Assistant Professor</td></tr>
<tr><td>Contact No.</td><td colspan="4">8530406340</td></tr>
<tr><td>E-mail ID</td><td colspan="4">akhicreta3628@gmail.com</td></tr>
<tr><td>Research Areas</td><td colspan="4">Solar cells, Memristor, Resistive switching devices, Perovskite materials synthesis.</td></tr>
<tr><td>No of Research papers published in last 5 years</td><td colspan="4">13</td></tr>
<tr><td rowspan="2">Research Projects in last 5 years (Give details)</td><td colspan="2">Nil</td><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td>Books Published (Details)</td><td colspan="4">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">One patent published</td></tr>
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<tr><td>300</td><td>09</td><td>09</td><td>-</td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td colspan="2">Pursuing</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">Nil</td><td colspan="2">Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">South Korea</td></tr>
<tr><td>National/International Awards</td><td colspan="4">Student exchange fellowship south korea</td></tr>
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Selected Publications 05	A.D. Sheikh, Akhilesh P. Patil, Chang Kook Hong, S. S. Mali, P.S. Patil, New insights into active-area-dependent performance of hybrid perovskite solar cells, Journal of Materials Science, Volume 54, Pages-10825-10835 Publisher, Springer US (Impact Factor= 4.22)
	Akhilesh P. Patil, K. A. Nirmal, S. S. Mali, C. K. Hong, T. G. Kim, P. S. Patil, T. D. Dongale, Tuning the analogue and digital resistive switching properties of TiO2 by nanocompositing Al doped ZnO, Materials Science in semiconductor processing, Volume -115, Pages- 105110, (Impact Factor = 3.92)
	S. B. Dhavale, V. L. Patil, S. A. Beknalkar, A. M. Teli, A. H. Patil, Akhilesh P. Patil, J. C. Shin, P. S. Patil, Study of solvent variation on controlled synthesis of different nanostructured NiCO2O4 thin films for supercapacitive applications, J. of Colloid and Interface Science, Accepted, Volume- 588, Pages- 589-601, (Impact factor- 9.9)
	Akhilesh P. Patil. C. Revadekar, S.A. Kundale, S. Patil, T. D. Dongale, Investigation of resistive switching effect and time series statistical analysis of solution combustion synthesised ZnTiO3 emristive device, Materials Science and Engineering B, Volume-33, Pages-23390-233403, (Impact factor- 3.9).
	S. A. Kundale, Akhilesh P. Patil, S. L. Patil. P. B. Patil, R. K. Kamat, D. K. Kim, T.G. Kim, T. D. Dongale, Effects of switching layer morphology on resistive switching behaviour: a case study of electrochemically synthesised mixed phase copper oxide memristive devices, Applied Materials Today,Volume-27, Pages-101460, Accepted, (Impact factor -8.6)

Name	Dr. Apurva Dadasaheb Patil	
Designation	Assistant Professor	
Contact No.	9561615726	
E-mail ID	adp.snst@unishivaji.ac.in	
Research Areas	Biochemistry, Microbiology, Nanobiotechnology, Secondary metabolites, Bioactive compounds, Protein Bioprofiling	

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<tr><td>No of Research papers published in last 5 years</td><td colspan="4">02</td></tr>
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<tr><td>Books Published (Details)</td><td colspan="4">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">Under process.</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>RG Score</td></tr>
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<tr><td>Visits Abroad</td><td colspan="4">No</td></tr>
<tr><td>National/International Awards</td><td colspan="4">1. Chief Minister Special Research Fellowship, SARTHI, Pune
2. Rajiv Gandhi Science and Technology Commission (RGSTC) Fellowship
3. Rashtriya Uchchattar Shiksha Abhiyan (RUSA) Fellowship</td></tr>
<tr><td rowspan="2">Selected Publications</td><td colspan="4">1. Apurva D. Patil, Pramod J. Kasabe, Padma B. Dandge. Pharmaceutical and nutraceutical potential of natural bioactive pigment: Astaxanthin (2022). Natural Products and Bioprospecting. 12(4): 1-27</td></tr>
<tr><td colspan="4">2. Apurva D. Patil, Pramod J. Kasabe, Geetanjali Mali and Padma B. Dandge. Isolation and Characterization of Pigment Producing Micro-Organism from Soil (2021). International Journal of Genetic Engineering and Recombination. 7(2): 28-37</td></tr>
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<table>
<tr><td>Name</td><td colspan="3">Dr. Valmiki Balu Koli</td><td>  </td></tr>
<tr><td>Designation</td><td colspan="4">Assistant Professor</td></tr>
<tr><td>Contact No.</td><td colspan="4">9623437669</td></tr>
<tr><td>E-mail ID</td><td colspan="4">valmikikoli12@gmail.com</td></tr>
<tr><td>Research Areas</td><td colspan="4">Nanomaterials, Photocatalysis, Solar energy harvesting, Biomedical application, Hydrogen production.</td></tr>
<tr><td>No of Research papers published in last 5 years</td><td colspan="4">18</td></tr>
<tr><td>Research Projects in last 5 years (Give details)</td><td colspan="2">Completed: Nil</td><td colspan="2">Ongoing: Nil</td></tr>
<tr><td>Books Published (Details)</td><td colspan="4">Nil</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">Under process.</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>RG Score</td></tr>
<tr><td>812</td><td>16</td><td>17</td><td></td></tr>
<tr><td>Total no of Ph.D. Students</td><td colspan="2">Awarded : Nil</td><td colspan="2">Working: Nil</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">Yes (South Korea, Taiwan)
1. Postdoctoral Researcher at Department of Physics, National Dong Hwa University, Show-Fang, Taiwan, R.O.C Duration: - 1st Oct 2019 to 23rd June 2023
2. Postdoctoral Researcher at Department of Material Science and Engineering, University of Seoul, South Korea Duration: - 28th Nov. 2017 to 15 Jan. 2019.</td></tr>
<tr><td>National/International Awards</td><td colspan="4">1. Received International Travel support from SERB under ITS Scheme to attain International Conference at Seoul, South Korea.
2. Received International Travel Fellowship from CICS Chennai</td></tr>
</table>

	to attain International Conference at South Korea.
Selected Publications	1. G Murugan, R Ragesh Nath, P Ramacharyulu, AN Maity, **VB Koli** Constructing BiOI–BiOBr/TiO2 nanocomposites by using a double solvothermal method for enhanced photocatalytic activity under visible light irradiation ***Journal of Materials Science: Materials in Electronics*** 34 (22) **(2023)**, 1645 (IF= 2.4) 2. **VB Koli,** G Murugan, SC Ke, Self-Assembled Synthesis of Porous Iron-Doped Graphitic Carbon Nitride Nanostructures for Efficient Photocatalytic Hydrogen Evolution and Nitrogen Fixation, ***Nanomaterials*** 13**(2023)** (2), 275.(IF= 5.7) 3. **VB Koli,** Ragesh Nath R., Jun-Ru Chen & Shyue-Chu Ke Enhanced photocatalytic inactivation of bacteria and degradation of pharmaceutical pollutant by rGO/N-TiO2 nanocomposites: a study of active radicals. ***Journal of Nanoparticle Reserch*.**24 **(2022)**156. (IF= 2.5) 4. SP. Deshmukh, **VB. Koli**, AG. Dhodamani, SM. Patil, VS. Ghodake, SD. Delekar, Ultrasonochemically Modified Ag@TiO_2 Nanocomposites as Potent Antibacterial Agent in the Paint Formulation for Surface Disinfection. ***Chemistry Select*** 6 **(2021)**113 –122.(IF= 2.3) 5. **VB Koli**, SC Ke, AG Dodamani, SP Deshmukh JS Kim Boron-Doped TiO_2-CNT Nanocomposites with Improved Photocatalytic Efficiency toward Photodegradation of Toluene Gas and Photo-Inactivation of Escherichia coli. ***Catalysts*** 10, **(2020)**, 632.(IF= 3.9) 6. AC Gandhi, CY Lai, KT Wu, P. V. R. K. Ramacharyulu, **VB. Koli,** CL Cheng, SC Ke, SY Wu, Phase transformation and room temperature stabilization of various Bi2O3 nano-polymorphs: effect of oxygen-vacancy defects and reduced surface energy due to adsorbed carbon species. ***Nanoscale,*** 12 **(2020)**, 24119.(IF= 8.7) 7. **VB Koli,** JS Kim, An efficient one-pot N doped TiO_2-SiO_2 Synthesis and its application for photocatalytic concretes ***Applied surface Science-*** 491 **(2019)** 60-66.(IF= 6.7) 8. **VB Koli,** JS Kim, Photocatalytic oxidation for removal of gases toluene oxidation of toluene gas by TiO_2-CeO_2 nanocomposites under UV light**.** ***Materials Science in Semiconductor Processing*****,** 94 **(2019)**70-79.(IF= 4.6) 9. AG. Dhodamani, KV. More, **VB. Koli**, AR. Shelke, NG. Deshpande, DK. Panda, and SD. Delekar, Compositional Dependent Physicochemical and Photovoltaic Properties of the $(TiO_2)_{1-x}(RGO)_x$ Nanocomposites for Sensitized Solar Cells Using Ru(II) Dyes. ***Chemistry Select*****,** 4 **(2019)**105 –106**.** (IF= 2.3)

	10. **VB Koli,** S Mavengere, JS Kim, Boron-doped TiO_2–CNTs nanocomposites for photocatalytic application. ***Journal of Materials Science: Materials in Electronics*** **(2018)** 1-13.(IF= 2.5) 11. **VB Koli**, S Mavengere, JS Kim, Photocatalytic properties of TiO_2-SiO_2 coated concr-ete on toluene gas. ***Material Research Express,*** 5 **(2018)** 125006.(IF= 2.0)
Book chapter published	1. **VB Koli,** SC Ke,, Self-cleaning photoactive metal oxide-based concrete surfaces for environmental remediation, ***Advances in Metal Oxides and Their Composites for Emerging Applications (Book chapter)*** **(2022),** 523-547.

Name	Dr. Maqsood Rafique Waikar	
Designation	Temporaray Assistant Professor	
Contact No.	+91- 9860861758	
E-mail ID	mrw.stuti@gmail.com	
Research Areas	Materials Science, Energy storage devices, gas sensors, Radiation Physics, Nanomaterials and Nanotechnology.	
No of Research papers published in last 5 years	**22**	
Research Projects in last 5 years (Give details)	-	
Books Published (Details)	1) Shital J Shinde, **Maqsood R Waikar**, Rakesh K Sonker, Rajendra G Sonkawade, "Optical Sensors Based on Polymeric Materials*", Advanced Functional Materials for Optical and Hazardous Sensing: Synthesis and Applications,* 2023, Progress in Optical Science and Photonics, vol 27. Springer, Singapore, ISBN 978-981-99-6013-2. 2) Satyashila D Ghongade, Pradnya G Raje, **Maqsood R Waikar**, Rakesh K Sonker, Rajendra G Sonkawade, "An Introduction: Advanced Functional Materials for Sensing Application*", Advanced Functional Materials for Optical and Hazardous Sensing: Synthesis and Applications,* 2023, Progress in Optical Science and Photonics, vol 27. Springer, Singapore, ISBN 978-981-99-6013-2. 3) Sohel B Shaikh, **Maqsood R Waikar**, Rakesh A Mohite, Satish B Jadhav, Chandrakant D Lokhande, Padmaja N Pawaskar, "Carbon-Based Functional Materials for Optical Sensors*", Advanced Functional Materials for Optical and Hazardous Sensing: Synthesis and Applications,* 2023, Progress in Optical Science and Photonics, vol 27. Springer,	

<table>
<tr><td></td><td colspan="4">Singapore, ISBN 978-981-99-6013-2.
4) Azeem M Bagwan, Maqsood R Waikar, Rakesh K Sonker, Shiv Kumar Chakarvarti, Rajendra G Sonkawade, “Gas Sensor Based on Ferrite Materials”, Smart Nanostructure Materials and Sensor Technology, 2022, Springer, Singapore, ISBN 978-981-19-2684-6.
5) Satyashila D Ghongade, Maqsood R Waikar, Rakesh K Sonker, Shiv K Chakarvarti, Rajendra G Sonkawade, “Gas Sensors Based on Hybrid Nanomaterial”, Smart Nanostructure Materials and Sensor Technology, 2022, Springer, Singapore, ISBN 978-981-19-2684-6.
6) Sunny R Gurav, Maqsood R Waikar, Akash S Rasal, Rakesh K Sonker, Rajendra G Sonkawade, “Current Development and Challenges in Textile-Based Flexible Supercapacitors”, Smart and Flexible Energy Devices, 2022, CRC Press, ISBN 9781003186755.</td></tr>
<tr><td>Patents/ IPR</td><td colspan="4">-</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>Researchgate Score</td></tr>
<tr><td>438+</td><td>11</td><td>12</td><td>196.2</td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2"></td></tr>
<tr><td colspan="2">-</td><td colspan="2"></td></tr>
<tr><td>Visits Abroad</td><td colspan="4">-</td></tr>
<tr><td>National/International Awards</td><td colspan="4">-</td></tr>
<tr><td>Selected Publications</td><td colspan="4">1) <u>M. R. Waikar</u>, A. S. Rasal, N. S. Shinde, S. D. Dhas, A. V. Moholkar, M. D. Shirsat, S. K. Chakarvarti, R. G. Sonkawade (2020), “Electrochemical Performance of Polyaniline Based Symmetrical Energy Storage”, Materials Science in Semiconductor Processing, 120, 105291, [I.F.=4.1], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.mssp.2020.105291
2) <u>M. R. Waikar</u>, P. M. Raste, R. K. Sonker, V. Gupta, M. Tomar, M. D. Shirsat. R. G. Sonkawade (2020), “Enhancement in NH3 sensing performance of ZnO thin-film via gamma-irradiation”, Journal of Alloys and Compounds, 830, 154641, [I.F.=6.2], Publisher: Elsevier, DOI: https://doi.org/10.1016/j.jallcom.2020.154641.
3) <u>M. R. Waikar</u>, R. K. Sonker, S. Gupta, S. K. Chakarvarti, R. G. Sonkawade (2020), “Post-γ -irradiation effects on structural, optical</td></tr>
</table>

	and morphological properties of chemical vapour deposited MWCNTs", Materials Science in Semiconductor Processing, 110, 104975, [**I.F.=4.1**], Publisher: Elsevier, DOI: https://doi.org/10.1016/j.mssp.2020.104975. 4) **M. R. Waikar**, A. A. Shaikh, R. G. Sonkawade (2019), "The supercapacitive performance of woollen-like structure of CuO thin films prepared by the chemical method", Vacuum, 161, 168-175, [**I.F.=4**], Publisher: Elsevier, DOI: https://doi.org/10.1016/j.vacuum 2018.12.034. 5) **M. R. Waikar**, A. A. Shaikh, R. G. Sonkawade (2019), "PANINFs synthesized electrochemically as an electrode material for energy storage application", Polymer Bulletin, 76, 4703-4718, [**I.F.=3.2**], Publisher: Springer, DOI: https://doi.org/10.1007/s00289-018-2634-1. 6) Suman A. Sawant, **Maqsood R. Waikar**, Gayatri R. Chodankar, Sunny R. Gurav, Ashwini V. Patil, Rajiv S. Vhatkar, Rajendra G. Sonkawade, (2024), "A redox additive electrolyte boosted supercapacitive energy density of wrinkled RGO sheets", Journal of Energy Storage, 76 109739, [**I.F.=9.4**], Publisher: Elsevier, DOI: https://doi.org/10.1016/j.est.2023.109739. 7) Satish A. Mahadik, Rajendra G. Sonkawade, Fernando Pedraza, Lahu B. Phadatare, Akshay K. Bhagate, **Maqsood R. Waikar**, (2023), "Enhancing photoelectrochemical performance through surface engineering of CdSe and Al-doped CdSe nanoparticles on ZnO/FTO photoanodes", International Journal of Hydrogen Energy, [**I.F.=7.2**], Publisher: Elsevier, DOI: https://doi.org/10.1016/j.ijhydene.2023.08.299. 8) Pradnya G. Raje, Sunny R. Gurav, **Maqsood R. Waikar**, Akash S. Rasal, Jia-Yaw Chang, R. G. Sonkawade (2022), "The review of different dimensionalities based pristine metal-organic frameworks for supercapacitor application", Journal of Energy Storage, 56, 105700, [**I.F.=9.4**], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.est.2022.105700. 9) S. A. Sawant, A. V. Patil, **M. R. Waikar**, Akash S. Rasal, S. D. Dhas, A. V. Mohalkar, R. S. Vhatkar, R. G. Sonkawade (2022), "Advances in chemical and biomass-derived graphene/graphene-like nanomaterials for supercapacitors", Journal of Energy Storage, 51, 104445, [**I.F.=9.4**], Publisher: Elsevier. DOI: https://doi.org/10.1016/j.est.2022.104445 10) S. D. Dhas, P. S. Maldar, M. D. Patil, **M. R Waikar**, R. G. Sonkawade, S. K. Chakravarti, S. K. Shinde, D. Y. Kim, A.V.

	Moholkar (2021), "Probing the electrochemical properties of NiMn2O4 nanoparticles as prominent electrode materials for supercapacitor applications", Material science and engineering B, 271, 115298, [**I.F. = 3.6**], Publisher: Elsevier, DOI: https://doi.org/10.1016/j.mseb.2021.115298. 11) S. D. Dhas, P. S. Maldar, M. D. Patil, S. A. Mane, **M. R. Waikar**, R. G. Sonkawade, A. V. Moholkar (2021), "Fabrication of efficient electrochemical capacitors rooted in sol-gel derived NiMn2O4 nanoparticles", Journal of Electroanalytical Chemistry, 897, 115548 [**I.F.=4.5**], Publisher: Elsevier, DOI:https://doi.org/10.1016/j.jelechem.2021.115548. 12) R. G. Sonkawade, **M. R. Waikar**, A. A. Shaikh, M. D. Shirsat, Y. Ali, S. K. Chakarvarti (2021), "Effect of low energy Li-negative ions irradiation on electrochemically synthesized Copper nanoflakes/Polyaniline nanofibers composite thin film", Thin Solid Films, 730, 138710, [**I.F.=2.1**], Publisher: Elsevier, DOI: https://doi.org/10.1016/j.tsf.2021.138710

Name	Dr. Prakash P. Wadgaonkar	
Contact No.	+91 8380814440, +91 8482908123 (WhatsApp)	
E-mail ID	pp.wadgaonkar@ncl.res.in	
Designation	Adjunct Professor	

Research Areas	· New Macromolecular Architectures Using Techniques such as, Atom Transfer Radical Polymerization (ATRP), Ring Opening Polymerization (ROP) and Anionic Polymerization · Polymer Synthesis and Modifications Using Click Chemistry · Monomers and Polymers from Renewable Resource Materials such as Cashew Nut Shell Liquid and Lignin · High Performance Polymers, Thermosetting Polymers · Self- Healing Polymers · Polymer Membranes for Gas Separation Studies, · Associating Polymers · Perfluoropolyethers · Polymers for Optoelectronic Applications · Dye Sensitized Solar Cells (DSSC) and · Organic Light Emitting Diodes (OLED)	
No of Research papers published in last 5 years	35 (2018-2023) Total Publications: 230	
Research Projects in last 5 years (Give details)	Completed:	Ongoing:
	-	-
Books Published (Details)	02 (Book Chapters)	

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<tr><td>Patents/ IPR</td><td colspan="4">25 (Total)</td></tr>
<tr><td rowspan="2">Scientific Merit</td><td>Citations</td><td>H-Index</td><td>i10-index</td><td>R G Sc ore</td></tr>
<tr><td>5469</td><td>38</td><td>160</td><td></td></tr>
<tr><td rowspan="2">Total no of Ph.D. Students</td><td colspan="2">Awarded</td><td colspan="2">Working</td></tr>
<tr><td colspan="2">24</td><td colspan="2">-</td></tr>
<tr><td>Visits Abroad</td><td colspan="4">· Visiting Professor, LCPO, University of Bordeaux, France (June-July 2015)
· Visiting Professor, Institute of Charles Gerhard, Montpellier, France (May-June 2013)
· Visiting Scientist, ESPCI, Universite Paris 6, CNRS, Paris, France (April-May 2011)
· Visiting Scientist, ESPCI, Universite Paris 6, CNRS, Paris, France (March- April 2002)
· Visiting Scientist, General Electric Corporate Research and Development, Niskayuna, New York State, USA (May-September 2000)
· Research Scientist, J&K Environmental Limited, UCCB, Sydney, Nova Scotia, Canada (1996-1997)
· Research Associate, Department of Chemistry, University of Tennessee, Knoxville, USA (1988-1990)</td></tr>
<tr><td>National/International</td><td colspan="4">· Jeevan-Gaurav Puraskar - (Life Time Achievement Award), Solapur University, Solapur, 2017</td></tr>
</table>

Awards	· NCL Research Foundation 'Scientist-of-the-Year Award (2013-2014) · Fellow of Maharashtra Academy of Sciences, 2008 · Prof. M. Santappa Silver Jubilee Award in Polymer Science, Society for Polymer Science (SPS), India, 2006 · Prof. Sukumar Maiti Polymer Award, 2004 · CSIR Technology Award for THPE Process, 2003 (Team Member) · Dunlop Award for the Best Research in the Area of Rubber Chemistry and Technology, Indian Rubber Manufacturers' Research Association (IRMRA), Mumbai, 1984 · Junior Research Fellowship (JRF) of CSIR, New Delhi, 1980 First Rank in MSc Examination of Shivaji University, Kolhapur, 1979
Selected Publications (10)	**1**. Synthesis, Characterization and UV-Crosslinking of Aromatic (Co)polycarbonates Bearing Pendant Azido Groups Samadhan S. Nagane, Sachin S. Kuhire, Amol B. Ichake, Aniket A. Talanikar, Bimlesh Lochab and **Prakash P. Wadgaonkar**, ChemistrySelect, (**2022**), (DOI: 10.1002/slct.202201020).
	2. Cardol: Cashew Nut Shell Liquid (CNSL) - Derived Starting Material for the Preparation of Partially Bio-Based Epoxy Resins Ketan Makwana, Amol B. Ichake, Vinayak Valodkar, G. Padmanaban, Manohar V. Badiger, **Prakash P. Wadgaonkar,** European Polymer Journal, 166, (**2022**), 111029, (DOI: 10.1016/j.eurpolymj.2022.111029)

	3. Post-Polymerization Modifiable Aromatic (Co)poly(ether sulfone)s Possessing Pendant Norbornenyl Groups Based Upon a New Bisphenol Aniket A. Talanikar, Samadhan S. Nagane, **Prakash P. Wadgaonkar** and Gajanan S. Rashinkar, European Polymer Journal, (**2022**), (DOI: 10.1016/j.eurpolymj.2022.111431).
	4. Synthesis, Characterization and Post-Modification of Aromatic (Co)Polyesters Possessing Pendant Maleimide Groups Uday A Jadhav, Samadhan S Nagane and **Prakash P Wadgaonkar**, High Performance Polymers, (**2022**), (DOI: 10.1177/09540083221127).
	5. Pendant Propargyloxy-Functionalized Aromatic (Co)Polycarbonates: Synthesis, Thermal Crosslinking and Chemical Modification Samadhan S. Nagane, Deepak M. Maher, Savita Verma, Aniket A. Talanikar and **Prakash P. Wadgaonkar,** Journal of Macromolecular Science, Part A, (**2022**), (DOI: 10.1080/10601325.2022.2117055).
	6. Synthesis and Characterization of Partially Bio-Based Aromatic (Co)polycarbonates Containing Biphenylene Units and Pendant Pentadecyl Chain Amol B. Ichake, Samadhan S. Nagane, Uday A. Jadhav, Arun Torris, Etienne Guru, Henri Cramail and **Prakash P. Wadgaonkar**, Macromolecular Chemistry and Physics, (**2022**), 202100449, (DOI: 10.1002/macp.202100449).
	7. Partially Bio-Based Furyl-Functionalized Organosoluble Poly(Ether Ether Ketone)s Sachin S. Kuhire, Aniket A. Talanikar, Bhausaheb V. Tawade, Samadhan S. Nagane and **Prakash P. Wadgaonkar,** Polymer International, 70, 1038–1047, **(2021),** (doi.org/10.1002/pi.6160)

	8. Partially Bio-Based Triarylamine-Containing Polyimides: Synthesis, Characterization and Evaluation in Non-Volatile Memory Device Applications Deepshikha Chatterjee, Uday A. Jadhav, Bharathkumar H. Javaregowda, Tukaram D. Dongale, Pramod S. Patil and **Prakash P. Wadgaonkar,** European Polymer Journal, 147, 110327-110338, **(2021),** (doi.org/10.1016/j.eurpolymj.2021.110327)
	9. Aromatic Polycarbonates Bearing Pendant Maleimide Groups *via* Functional Monomer Approach: Synthesis and Characterization Samadhan S. Nagane, Sachin S. Kuhire, Amol B. Ichake, P. R. Rajamohanan and **Prakash P. Wadgaonkar**, Journal of Polymer Research, 27 (8), 1-12, **(2020),** (doi.org/10.1007/s10965-019-1909-z)
	10. Vitrimers Based on Bio-derived Chemicals: Overview and Future Prospects Balaji Krishnakumar, Andrea Pucci, **Prakash P. Wadgaonkar**, Indresh Kumar, Wolfgang H. Binder and Sravendra Rana, Chemical Engineering Journal, **(2021),** (doi.org/10.1016/j.cej.2021.133261)

Name	Mr. Nitin Bajirao Lakade	
Designation	Contributory Teacher	

Contact No.	+91 7972089257			
E-mail ID	nitin.nbl@gmail.com			
Research Areas	Linguistics Communication skills Social Media			
No of Research papers published	01			
Research Projects (Give details)	Completed: Nil	Ongoing: Nil		
Books Published (Details)	Nil			
Patents/ IPR	Nil			
Scientific Merit	Citations	H-Index	i10-index	RG Score
Total no of Ph.D. Students	Awarded	Working		
	Nil	Nil		
Visits Abroad	No			
National/International Awards	Nil			
Selected Publications	Nil			
	NA			

Details of Research Laboratories & infrastructure with photographs

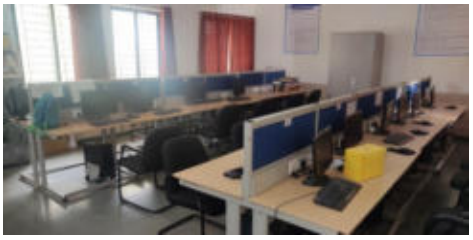
Infrastructure and Learning Resources


Smart Classrooms


Infrastructure and Learning Resources


Laboratories





Research Labs: Nanophysics

Ultrasonicator

Autoclav

Gas Sensing Unit

Muffle Furnace

Research Labs: Nanochemistry

Micro-Centrifuge

Weighing Balance

Photoelectric Calorimeter

Conductivity Meter

Lab Mill

Padding Mangle

Digital pH Meter

Digital Stop Watch

Nano pure Water Purification System

SILAR Setup

Electro-spinning setup

TEP Setup

Dip Coating Setup

Laboratory Oven

Anodization setup

High Pressure and Temperature autoclave

Spin coater

Research Labs: Nanobiotechnology


Incubator Shaker


Static Incubator


Hot Air Oven


-80 °C Deep Freezer


Water Bath


Gel Doc Unit


Cooling Centrifuge Machine


Vacuum Oven


Autoclave


Laminar Air Flow


Bio-spectrometer


Microplate Readers


Thermo-Shaker


Protein Purification System


UV Chamber/ Darkroom


Ultra pure Water Purification System

Research Labs: Nanoelectronics


Probe Sonicator

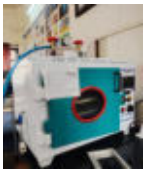

Resistivity measurement unit


3-D printer


Micro Centrifuge


PID Controller Oven

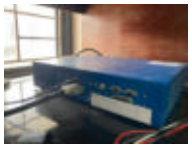

APT


Vacuum Oven


Hot Air Oven


Manual Two Probe System


Source Measurement Unit


Electrochemical Workstation


Contact Angle meter


Battery Cycler


Precision LCR Meter

Research Labs: Nanosynthesis and Characteriztion

Spray Pyrolysis Unit

Pressure Gauge

Solar Simulation Lab

Electric hot rolling press system

UV Visible Spectrophotometer

Gas sensor with Keithley meter

Orbital Shaker

Cryostat

Bio RAD

SP-UV-Visible Spectrometer

Dynamic Light Scattering Analyzer

Photo Chemical Reactor System

Programmable Vacuum Drying Oven

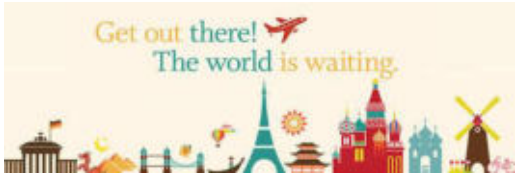
Distillation Unit

Contact Angle Measurement System

Autolab Potentiostat

Details of Students Placements

Student Placements



Global: 150+
National: 100+

Outstanding Alumni

I. Entrepreneurs

Photo	Full name & Address	Company/Industry Name	Year of Passing
	Pritam Chougale Kolhapur	DmagV Technologies and consultancies,K olhapur	2016-17
	Umesh Patil Jaysingpur	Swabhimani Solar, Jaysinghpur, Maharashtra, India	2016-17
	Kasturi Rokade Kolhapur	Nanoworld, Kolhapur, Mahararashtra, India	2017-18
	Digvijay Chougule Belgaum	Vdum, Nanobiolaborat ories, Rahing, Belgaum,	2018-19

II. Postdoctoral Fellows Abroad

Photo	Full name & Address	Country Name and University/Institute	Position	Salary	Year of Passing
	Dr. Navaj Bapuso Mullani	Gyeongsang National University, South Korea	PDF	~2 L per month	2016-2017
	Dr.Vijay Karade	Center for Photovoltaics Innovation and Commercialization (PVIC), Department of Physics School for Solar and Advanced Renewable Energy, College of Natural Sciences and Mathematics The University of Toledo Toledo, OH 43606	PDF	~2 L per month	2016-2017
	Dr. Neelam Ghanshyam Yadav	Laboratory of reactivity and Chemistry of solids France	PDF	~2 L per month	2016-2017
	Dr. Suhas Yadav	University of Oulu University of Oulu Bar-Ilan University Oulu, North Ostrobothnia, Finland	Postdoctoral Researcher	~2 L per month	2017-18

	Dr. Somnath Kundale	Gyeongsang National University	Postdoctoral Researcher	~2 L per month	2017-18

III. Prestigious Ph. D. Fellowships Abroad (75+)

Photo	Full name & Address	Country Name and University/Institute	Salary	Year of Passing
	Jinesh Lalitkumar Chouhan	Korea University, Seoul	Approx. 10 LPA	2020-2021
	Sharad Mane	Institute of Scientific and Industrial Research ISIR SANKEN. Osaka University Japan.	Approx. 10 LPA	2020-2021
	Patil Pradnya Pratap	Australian National University, ACT 2601, Canberra, Australia.	18 LPA	2021-2022
	Nirmale Vinayak Shekhar	University of Edinburgh, UK	1.4 Crore Rupees for 3 years	2022-2023

	Kulkarni Abhishek Amar	Queensland University of Technology, Brisbane, Australia	18 LPA	2022-2023

IV. Ph. D. Fellowships in India

Photo	**Full name & Address**	**Name of the University/Institute**	**Year of Passing**
	Pallavi Jagadale	Jain University, Bangalore	2019-20
	Akshay Popat Tambavekar	Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore	2020-2021
	Tamboli Ujma Ashapak	Centre of Nanoscience and Genomics, Karunya University, Coimbatore	2020-21
	Pratik Kalvikatte	Indian Institute of Technology, Bombay	2021-22

	Prajkta Narendra Gaikwad	Mahindra University, Hyderabad.	2021-22
	Sagar Santosh Gawande	Indian Institute of Science, Education, and Research, Mohali	2021-22

V. Industries and Companies

Photo	**Full name & Address**	**Company/Industry Name**	**Position**	**Salary**	**Year of Passing**
	Aadarsh Patil	Genrich Membrane Pvt. Ltd, Pune, India	R & D Chemist	4 LPA	2020-21
	Shah Ishika Umesh	e-TRNL Energy Pvt Ltd., Bangalore	Materials Engineer	5.5 LPA	2022-2023
	Abhilasha Deshpande	Bajaj Finserv, Head office, Viman Nagar, Pune	Deputy Manager	5 LPA	2022-2023
	Pratiksha Bhamangol	ChemSci Innovation Pvt Ltd	Research Associate	2.4 LPA	2022-2023

	Supriya Chipare	High Dura Next Gen, Nashik.	R and D	1.8 LPA	2023-2024
	Pratiksha Shinde	High Dura Next Gen, Nashik.	R and D	1.8 LPA	2023-2024

VI. Allied Sector Services

Photo	**Full name & Address**	**Sector Name**	**Position**	**Year of Passing**
	Dr. Akhilesh Patil	Academics SNST, SUK	Assistant Professor	2018-2019
	Gayatri More	Springer-Nature Publication House, India	Editorial Associate	2018-2019
	Anuja Harel	Indian Patent Office	Patent officer	2018-19
	Manusha Rao	Infosys, Bangalore, Banglore	Software Engineer	2020-21

VI. Government Services

Photo	Full name & Address	Sector Name	Year of Passing
	Tushar Rane	Corporate Division, Maharashtra Govt	2017-2018
	Rahul Siddheshwar Khatkale	Indian Navy, Kochi	2018-2019
	Avdhut Tanaji Desai	Indian Navy, Kochi	2020-21
	Jay Anil Nalawade	Indian Navy, Kochi	2019-20

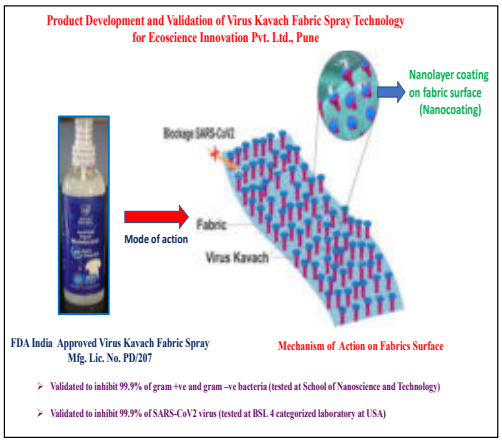
Details of MoUs

Departmental Collaborations

International: 10 (MoUs, Publications, UGC-GIAN Program)	National: 10 (MoUs, Publications, M. Sc. II Project)

Innovations

Products Developed by Department



Roadmap of the School:

Roadmap and Future Plans