Dr. Kiran D. Pawar
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School of Nanoscience and Technology
Shivaji University, Vidyanagar, Kolhapur, 41
MS, India.

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Country of citizenship: India
Date of Birth: 1st June 1979.

***Ph. D. Thesis**: "*In vitro* production of secondary metabolites from cultured cells/tissues and molecular characterization of *Calophyllum inophyllum* L".

Research interest

- Microbial Biotechnology
- Plant Biotechnology
- Plant Molecular Biology.
- Plant Tissue Culture
- Biological synthesis of nanoparticles.
- Applications of nanoparticles in biomedical field.
- Agricultural Nanobiotechnology

Academics:

June 2014 -till date-: Working as Assistant Professor at School of Nanoscience and Biotechnology, Shivaji University, Kolhapur.

Nov. 2012- June 2014–: Worked as Assistant Professor at Dept. of Biotechnology, Shivaji University, Kolhapur on "DBT-Shivaji University, Kolhapur- Interdisciplinary Programme on Life Science for Advanced Research and Education".

June 2012-Nov. 2012-: Worked as Dr. D. S. Kothari Postdoc Fellow Div. of Biochemistry, Dept. of Chemistry, University of Pune.

June 2011-June 2012-: Worked Assistant professor at Department of biotechnology, University of Pune, India

2009-2011-: Worked as DBT- Post Doctoral Fellow (Department of Biotechnology, Govt of India) at Molecular Biology Unit, Lab. # 3, National Centre for Cell Science, Pune, India, on topic "Molecular characterization of ESTs from *Anopheles stephensi* mosquitoes".

2003-2009-: Ph.D. in Biotechnology from National Chemical Laboratory, Pune, India registered under University of Pune, India. Title of my thesis was: "*In vitro* production of secondary metabolites from cultured cells/tissues and molecular characterization of *Calophyllum inophyllum* L".

2000-2002-:M.Sc. in Biotechnology from North Maharashtra University, Jalgaon, Maharashtra.

1997-2000-: B. Sc. In botany from S.S.V.P.S. Science College, Dhule, Maharashtra affiliated to North Maharashtra University, Jalgaon, Maharashtra with Botany as principle subject.

Ph.D. Students- 6

Sr. No.	Name of students	Title of doctoral research	Status
1	Ms. Reshma V. Patil	"Molecular investigation of sex determination in Kokum (*Garcinia indica* Choissy)."	Awarded (Oct. 2021)
2	Ms. Geetanjali M. Sangaonkar	"Biosynthesis of nanoparticles for their application in fabrication of nanosensors."	Awarded (Mar. 2022)
3	Ms. Megha P. Desai	"Isolation, identification and phylogenetic study of iron tolerant bacteria and their applications for biosynthesis of magnetic nanoparticles."	Awarded (Feb. 2023)
4	Ms. Priyadarshani S. Sadalage	"Study of cellulolytic bacteria for bioethanol production from lignocellulosic biomass."	Submitted
5	Ms. Pranoti B. Kumbhar	"Biopolymer based materials for biomediacal applications."	Ongoing
6	Ms. Vrishali M. Kumbhar	"Bacteria mediated metal and metal oxide-based systems for targeted delivery of anticancer drugs."	Ongoing

Postdoctoral research students- 1

Sr. No.	Name of students	Title of Postdoctoral research
1	Sandip A. Walujkar	"Molecular investigation of magnetotactic bacteria and their applications for biosynthesis of magnetic nanoparticles."

Project sanctioned

Sr. No.	Funding Agency	Title of Project	Duration	Amount Sanctioned (in Rs)	Completed/ ongoing
1	DBT	"DBT-BUILDER- Shivaji University Interdisciplinary Life Science Programme for Advance Research and Education"	2021-2025	427 Cr.	Ongoing
2	DST	Synergistic training program utilizing the scientific and technological infrastructure (STUTI) (Co-cordinator)	2022-2023	225 Cr.	Ongoing
3	Research strengthening scheme, SUK	"Enrichment, isolation and characterization of nanocellulose producing bacteria from rotten fruits"	2019-2021	3,00,000/-	Completed
4	RGSTC	"Production of microcellulose/nano-cellulose through degradation of lignocellulosic biomass wastes"	2019-2021	4,70,000/-	Completed
5	UGC MRP	*"In vitro* Production of Secondary metabolites from the Lotus *Nelumbo nucifera"*	2015-2018	16,06,500/-	Completed
6	BSR RESEARCH START UP – GRANT	"Isolation and identification of lignocellulolytic bacteria from the gut of Giant African Snail and their use for production of bioethanol"	2014-2016	6,00,000/-	Completed

7	DST SERB START UP RESEARCH GRANT	"Identification of gender specific molecular marker in Kokum"	2015-2017	31,20,000/-	Completed

Awards and Fellowship

- Awarded Dr. D. S. Kothari Postdoctoral fellowship of UGC, India
- Awarded Postdoctoral Fellowship of DBT (Department of Biotechnology, Govt. of India) for Postdoctoral studies in Molecular Biology.
- Recipient of Senior Research Fellowship (SRF) of the Council of Scientific Industrial Research, India for continuing doctoral studies in 2005.
- 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.
- Qualified SET (State Eligibility Test, Maharashtra for Lectureship) conducted by University of Pune, in 2003).

Research Details

1. Number of Publications: 59
2. Patents: 2 (granted 01, In process -01)
3. Book Chapter: 7
4. Number of citations: 1205
5. h-Index: 21
6. i10-index: 36

Patent: 'Biomolecule mixture for biogenic synthesis of metal nanoparticles'

Indian patent application No.-202121045333A (Granted)

International patent- PCT/IN2021/051188 (Published)

Research Publications

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-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)
45. Gholave AR, **Pawar, K.D.**, Yadav, S.R., Bapat, V.A., Jadhav J.P., (2017). Reconstruction of molecular phylogeny of closely related Amorphophallus species of India using plastid DNA marker and fingerprinting approaches. Physiology and molecular biology of plants 23 (1), 155-167 (IF-3.023)
46. Patil, R.R., **Pawar, K.D.**, Rane, M.R., Yadav, S.R., Bapat, V.A., Jadhav J.P., (2016). Assessment of genetic diversity in Mucuna species of India using randomly amplified polymorphic DNA and inter simple sequence repeat markers. Physiology and Molecular Biology of Plants 22 (2), 207-217. (**IF-3.023**)
47. Charan, S. S., Pawar, K. D., Gavhale, S. D., Tikhe, C. V., Charan, N. S., Angel, B., ... & Shouche, Y. S. (2016). Comparative analysis of midgut bacterial communities in three aedine mosquito species from dengue-endemic and non-endemic areas of R ajasthan, I ndia. *Medical and veterinary entomology*, *30*(3), 264-277. **(IF-1.9)**
48. Suryavanshi, M.V., Bhute S.S., Bharti, N., **Pawar, K. D.,** Shouche Y.S., (2016) Eubacterial diversity and oxalate metabolizing bacterial species (OMBS) reflect oxalate metabolism potential in Odontotermes gut. Journal of Pure and Applied Microbiology 10 (3), 2035-2044 (**IF-0.157)**
49. Dar, M.A., **Pawar, K.D.**, Jadhav J.P., Pandit R.S. (2015). Isolation of cellulolytic bacteria from the gastro-intestinal tract of *Achatina fulica* (Gastropoda: Pulmonata) and their evaluation for cellulose biodegradation. International Biodeterioration & Biodegradation 98, 73-80. (IF-4.8)
50. Deodhar, S., **Pawar, K.**, Singh, N., Thengane, R. J., & Thengane, S. R. (2014). Clonal propagation of female plants of Garcinia indica Choiss: a tree species of high medicinal value. *Journal of Applied Biology and Biotechnology*, *2*(6), 0-2. **(IF-NA)**
51. **Pawar, K.D.**, Dar, M. A., Rajput, B. P., Kulkarni G. J., (2015). Enrichment and identification of cellulolytic bacteria from the gastrointestinal tract of Giant African snail, *Achatina fulica.* Applied biochemistry and Biotechnology 175 (4), 1971-1980 (IF-3.094)
52. Charan, S.S., **Pawar, K.D.**, Severson, D.W., Patole, M.S., Shouche, Y.S. 2013 "Comparative analysis of midgut bacterial communities of *Aedes aegypti* mosquito strains varying in vector competence to dengue virus". Parasitology Research 112 (7),2627-2637. (IF-2.383)
53. **Pawar K.D.**, Banskar, S., Rane S. D., Charan, S S., Sawant, S. S, Kulkarni G. J., Ghate H. V, Patole M. S., and houche Y.S. 2012 "Bacterial diversity analysis in different regions of gastrointestinal tract of Giant African Snail, *Achatina fulica".* Microbiology Open 1 (4), 415-426 **(IF-3.904)**
54. **Pawar, K. D.**and S. R. Thengane. 2011. "Influence of abiotic elicitation on production of dipyranocoumarins in suspension cultures *of Calophyllum inophyllum* L.". Acta Physiol. Planta. 33(6), 2146-2158. **(IF-2.736)**
55. **Pawar, K. D.** Yadav, A. V., Shouche, Y. S. and S. R. Thengane. 2011. "Influence of endophytic fungal elicitation on production of inophyllum in suspension cultures of *Calophyllum inophyllum* L". Plant Cell Tiss. Organ Cult. 106 (2), 345-352 **(IF-3)**
56. **Pawar,K. D.,** Joshi, S. P., and Thengane, S. R. 2011. "Association between Chemical and Genetic variation in *Calophyllum inophyllum*, medicinally important tree of the Western Ghats of India.". Plant Syst. Evol. 292, 257-265 **(IF-1.9)**

57. **Pawar, K. D.** and Thengane, S. R. 2009. "Influence of hormones and medium components on expression of dipyranocoumarins in cell suspension cultures of *Calophyllum inophyllum*". Process Biochemistry. 44, 916-922. **(IF-4.885)**
58. **Pawar, K. D.**, Joshi, S. P. Bhide, S. R. and Thengane, S. R. 2007 "Pattern of anti- HIV dipyranocoumarins expression in callus cultures of *Calophyllum inophyllum*. J. Biotechnol. 130, 346-353. **(IF-4.1)**
59. Thengane, S. R., Bhosle, S. V., Deodhar.,S. R., **Pawar, K. D.**, Kulkarni, D. K. 2006 "Micropropagation of an Indian Laurel, *Calophyllum inophyllum*: source of anti-HIV compounds". Current Science**.** 90, 393-397. **(IF-1.169)**

Book chapters

1. Potadar R.S., Moholkar D.N., **Pawar K.D**., (2022). Nanosensors for the detection of heavy trace metals in soil. In book Nanosensors for Smart Agriculture 329-353
2. Dar M.A., Dhole N.P., **Pawar K.D.,** Xie R., Shahnawaz M., Pandit R.S, Sun J. (2022). Ecotoxic Effects of the Plastic Waste on Marine Fauna: An Overview Impact of Plastic Waste on the Marine Biota, Springer, Singapore 287-300
3. More G.M., Tiwari A.P., **Pawar K.D**., Dongale T.D., Kim T.G., (2021). Bipolar resistive switching in biomaterials: case studies of DNA and melanin-based bio-memristive devices. Mem-elements for Neuromorphic Circuits with Artificial Intelligence Applications, Advances in Nonlinear Dynamics and Chaos. 299-323
4. Moholkar, D.N., Havaldar, D.V., Potadar, R.S., **Pawar, K. D**., (2020). Optimization of Biogenic Synthesis of Colloidal Metal Nanoparticles DN Colloids-Types, Preparation and Applications
5. Patil, R.V., **Pawar, K. D.** (2019). Phytochemicals of *Calophyllum inophyllum* in Reference Series in Phytochemistry. Bioactive Compounds in Underutilized Fruits and Nuts, Publisher Springer
6. Patil, R.V., **Pawar, K. D.** (2019). In Planta Synthesis of Nanomaterials for Environmental Remediation. In book: Plant-Metal Interactions (pp.283-307) DOI: 10.1007/978-3-030-20732-8_14
7. Dar, M. A., **Pawar, K. D.,** Pandit, R., (2017). Gut Microbiome Analysis of Snails: A Biotechnological Approach. 10.5772/68133.

Summery

My research area is closely aligned with the field of nanobiotechnology, microbial biotechnology, molecular Biology and agricultural nanotechnology. As a part of my nanobiotechnology research, I look for various biological agents such as bacteria, fungi and plants for their use in the optimised biogenic synthesis of various metal and metal oxides nanoparticles for their possible applications in various fields of biotechnology, agricultural nanotechnology and biomedical sciences. To this end, I have been researching how biogenic nanoparticles can be employed optimally for applications such development of biosensor, photocatalysts, antibacterial and antioxidant agents. In addition to this, I am also working on the aspect of development of technology for the production of biofuel from agriculture waste. To accomplish this, I am striving to isolate and identify lignocellulolytic bacteria that can be

used for optimum degradation of agriculture waste for subsequent use in the production of bioethanol.