

Dr. Mansingraj S. Nimbalkar

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Educational Qualifications:

Ph. D. (Botany) from Shivaji University, Kolhapur in 2011.

M.Sc. (Botany) from Shivaji University, Kolhapur in 2001.

B. Sc. (Botany) Shivaji University, Kolhapur in 1999.

Teaching Experience:

Department of Botany, Shivaji University, Kolhapur, Assistant Professor, 2014- till date.

Department of Biotechnology, Shivaji University, Kolhapur, Contributory Lecturer, 2004-2005.

Department of Sericulture, Shivaji University, Kolhapur, Contributory Lecturer, 2004-2005.

Professional Experience:

Convener, RUSA Center for Natural Products and Alternative Medicine, Shivaji University, Kolhapur

Coordinator, Incubation and Training Center in Botany, Shivaji University, Kolhapur

Additional Rector, Vidhyarthi Bhavan , Shivaji University, Kolhapur . 2017-2020.

Fellowships and awards:

Dr. D. S. Kothari Postdoctoral Fellowship (DSKPDF) , University Grants Commission, Govt. of India, New Delhi .

Senior Research Fellow, Department of Biotechnology, Govt. of India, New Delhi. March 2008 to June 2009.

Project Fellow University Grants Commission, Govt. of India, New Delhi.Feb. 2005 to Dec. 2007.

Patent:

1. "A Composite Comprising A Receptor Domain Of Angiotensin Converting Enzyme Protein, And Implementations Thereof" PD038039IN-SC (Pending)
2. "Device for analyzing oil content in aromatic plants", 2023 Registration No. 367486-001

Research Projects:

1. "DBT-BUILDER –Shivaji University Interdisciplinary Life Science Programme for Advance Research and Education" Funded by Department of Biotechnology, Government of India, sanctioned amount Rs. 4,27,00,000/-
2. "Quality Plant Production Using Low Cost Biotechnological Approaches" Funded by Rajiv Gandhi Science and Technology Commission Government of Maharashtra sanctioned amount Rs. 81,33,000/-
3. "Establishing demonstration plots and technology transfer for Quality Plant Production Using Biotechnological Approaches" Funded by Rajiv Gandhi Science and Technology Commission Government of Maharashtra sanctioned amount Rs. 57,73,000/-
4. "Screening for Decoy Receptor Proteins for Corona Virus" Funded by Shivaji University, Kolhapur, sanctioned amount Rs. 3,00,000/-
5. "Large scale multiplication of Banana landrace -Mandol " Funded by Department of Agriculture, Government of Maharashtra sanctioned amount Rs. 19,80,000/-
6. "Biotechnological approaches for bioprospecting of *Operculina tansaensis* Sant. & Patel.: A critically endangered species in western ghats" funded by University Grant Commission sanctioned amount Rs. 6,00,000/-

Research highlights :

- Genetic transformation
- Mass multiplication of local cultivars and RET species.
- Phytochemical profiling of RET and Medicinal Plants
- Nanobiotechnology
- Deciphering bioluminescence in fungi.

➤ Memberships :

- 'President, NGO "Sahyadri Group Enriching Nature Environment and Science" (Sahyadri GENES)
- Member BoS , Vivekanand College, Kolhapur.
- Member Anti Ragging committee, New College, Kolhapur.

➤ **Details of Research Publications****SCOPUS Author ID: 35111661100**<https://www.scopus.com/authid/detail.uri?authorId=35111661100>**Total citation-596;****h index-15****Google scholar:**<https://scholar.google.co.in/citations?user=YgR4MC4AAAAJ&hl=en>**Total citation-918; h index-19****i10 index-24****Selected Publications:**

1. 'Chemical characterization, mineral analysis and antioxidant potential of two underutilized berries (*Carissa carandus* and *Eleagnus conferta*) from Western Ghats of India.' Patil R. P., Sandeep R. Pai, Pawar N.V., Shimpale V. B., Patil R. M. and Nimbalkar M. S., **Critical Reviews in Food Science and Nutrition**. 52:4, 312-320. 2012. (IF: 11.176)
2. 'Free amino acid profiling in grain Amaranth using LC-MS/MS' Nimbalkar M. S., Pai S. R., Pawar N. V., Oulkar D. and Dixit G. B., **Food Chemistry**, 134,2565-2569,2012. (IF: 6.306)
3. 'RP-HPLC analysis of phenolic antioxidant compound 6-gingerol from different ginger cultivars' Pawar N. V., Pai S. R., Nimbalkar M. S. and Dixit G. B, **Food Chemistry**. 126(2): 1330-1336, 2010 (IF: 6.306).
4. "Bio-mimetic synthesis of catalytically active nano-silver using *Bos taurus* (A-2) urine" Sarvalkar, P.D., Mandavkar, R.R., Nimbalkar, M.S. et al. . **Scientific Reports** 11, 16934 (2021). (IF: 4.379).
5. 'Optimization of extraction techniques and quantification of Betulinic Acid (BA) by RP-HPLC method from *Ancistrocladus heyneanus* Wall. Ex Grah.' Pai S. R., Nimbalkar M. S., Pawar N. V. and Dixit G. B. **Industrial Crops and Products**. 34: 14581464, 2011. (IF: 4.244).
6. "pH triggered curcumin release and antioxidant activity of curcumin loaded γ -Fe₂O₃ magnetic nanoparticles" PB Patil, SB Parit, PP Waifalkar, SP Patil, TD Dongale, SC Sahoo, P Kollu, **Materials Letters** 223, 178-181, 2018. (IF 3.019)
7. 'Antiaflatoxic and antioxidant activity of an essential oil from *Ageratum conyzoides* L.' Patil R. P., Nimbalkar M. S., Jadhav U. U., Dawkar V. V. and Govindwar S. P. **Journal of the Science of Food and Agriculture**. 90(4): 608-614, 2010. (IF: 2.463).
8. "Phytochemical analysis, antioxidant activities and optimized extraction of embelin from different genotypes of *Embelia ribes* Burm f.: a woody medicinal climber from Western Ghats" V Kamble, U Attar, S Umdale, M Nimbalkar, S Ghane, N Gaikwad **Physiology and Molecular Biology of Plants** 26 (9), 1855-1865, 2020. (IF 2.016)
9. 'Quantitative determination of three pentacyclic triterpenes from five *Swertia* L. species endemic to Western Ghats, India, using RP-HPLC analysis' Kshirsagar, P R, Pai S R, Nimbalkar M S, Gaikwad N B, , **Natural product research** ahead-of-print . 2015. (IF 2.158)
10. 'DNA barcoding for identification of the enigmatic plant 'Ramkand' Nimbalkar M. S., Kshirsagar P. R., Shimpale V. B., Pawar N. V. and Dixit G. B. **Current science**. 100(9): 2011. (IF: 0.756).

All Publications:

1. "Iron tolerant *Bacillus badius* mediated bimetallic magnetic iron oxide and gold nanoparticles as Doxorubicin carrier and for hyperthermia treatment", MP Desai, AC Paiva-Santos, M S Nimbalkar, Kailas D Sonawane, Pramod S Patil, Kiran D Pawar, **Journal of Drug Delivery Science and Technology**, 81, 104214, 2023. (IF 4.95)
2. "Optimization of biogenic synthesis of biocompatible platinum nanoparticles with catalytic, enzyme mimetic and antioxidant activities" Priyadarshani S Sadalage, Mudasir A Dar, Renuka D Bhor, Bharat M Bhalerao, Pravin N Kamble, Ana C Paiva-Santos, MS Nimbalkar, Kailas D Sonawane, Kalpana Pai, Pramod S Patil, Kiran D Pawar (IF 5.3)
3. "Impact of plant growth promoting rhizobacteria *Serratia nematodiphila* RGK and *Pseudomonas plecoglossicida* RGK on secondary metabolites of turmeric rhizome" RR Jagtap, GV Mali, SR Waghmare, NH Nadaf MS Nimbalkar, KD Sonawane - **Biocatalysis and Agricultural Biotechnology**, 2023
4. "Prospecting Indian *Barleria* Species for their Antioxidants, Anti-Bronchial, and Anti-Cancer Compounds", SR Pai, PR Kshirsagar, NV Pawar, MS Nimbalkar **Pharmacognosy Magazine** 18 (80), 886. 2022(IF 1.08)
5. "Optimization of biogenic synthesis of biocompatible platinum nanoparticles with catalytic, enzyme mimetic and antioxidant activities" Priyadarshani S Sadalage, Mudasir A Dar, Renuka D Bhor, Bharat M Bhalerao, Pravin N Kamble, Ana C Paiva-Santos, Mansingraj S Nimbalkar, Kailas D Sonawane, Kalpana Pai, Pramod S Patil, Kiran D Pawar. **Food Bioscience** (50), 2022(IF 5.15)
6. "*Dioscorea oppositifolia* plant extract reduces adipogenesis by down-regulating PPAR γ , C/EBP α , SREBP-1, and FASN in 3T3L1 pro-adipocytes" RS Patil, MP Mane, AB Magdum, MS Nimbalkar **Phytomedicine Plus** 2 (3), 2022 100293
7. "Biogenic synthesis of silver anchored ZnO nanorods as nano catalyst for organic transformation reactions and dye degradation" OS Karvekar, PD Sarvalkar, AS Vadanagekar, RD Singhan, SM Jadhav , M.S. Nimbalkar, NR Prasad **Applied Nanoscience**, 1-20 (2022) (IF: 3.674).
8. "Tissue Engineered Human Ear Pinna Derived from Decellularized Goat Ear Cartilage: Clinically Useful and Biocompatible auricle construct" M Joshi, N Bhamare, K Tardalkar, S Desai, T Marsale, M Nimbalkar, **Cell and Tissue Banking** 2021. <https://doi.org/10.1007/s10561-021-09911-1>. (IF 1.149)
9. "Carbon Nanodots Derived from Kitchen Waste Biomass as a Growth Accelerator for Fenugreek Plant" RD Waghmare, DB Gunjal, VM Naik, AH Gore... - **Journal of Nanoscience and Nanotechnology**, Apr 1;21(4):2234-2245. 2021. (IF 1.354)

10. "Synchronized variations in levels of essential amino acids during germination in grain Amaranth" MS Nimbalkar, NV Pawar, SR Pai, GB Dixit, **Brazilian Journal of Botany** 43 (3), 481-491, 2020. (IF 1.011)
11. "Evolution of structural and magnetic properties in iron oxide nanoparticles synthesized using *azadirachta indica* leaf extract" RS Kanase, VC Karade, P Kollu, SC Sahoo, PS Patil, SH Kang, JH Kim, **Nano Express** 1 (2), 020013, 2020.
12. "Advances in Tissue Culture of Cucurbits: A Review" , SS Dhumal, BV Naik, MS Nimbalkar **Int. J. Curr. Microbiol. App. Sci** 9 (8), 2887-2910, 2020.
13. "Controlled release of poorly water soluble anticancerous drug camptothecin from magnetic nanoparticles" , AR Patil, MS Nimbalkar, PS Patil, AD Chougale, PB Patil **Materials Today: Proceedings**, 23, 437-443,2020. (IF 0.97)
14. "Novel synthesis of ultra-fine Sb₂O₃ nanocubes using plant extract" AR Indurkar, VD Sangoi, ND Moon, MS Nimbalkar **IET Nanobiotechnology** 13 (6), 593-596,2019. (IF 1.859)
15. "Quantification of Zerumbone in Eleven Cultivars of *Curcuma longa* Using RP-HPLC" PR Kshirsagar, NV Pawar, SP Patil, MS Nimbalkar, SR Pai **Indian Journal of Pharmaceutical Sciences** 80 (6), 1159-1165, 2018. (IF 0.721)
16. "Rapid synthesis of Bi₂O₃ nano-needles via 'green route'and evaluation of its anti-fungal activity" AR Indurkar, VD Sangoi, PB Patil, MS Nimbalkar, **IET Nanobiotechnology** 12 (4), 496-499, 2018. (IF 1.859)
17. "Rapid in vitro Multiplication Protocol for *Ceropegia Noorjahaniae* Ans., a Critically Endangered, Endemic Plant of the Western Ghats" Vinayak Kedage, Simran Lilwani, Mayur Kamble, Mansingraj Nimbalkar, Sandeep Pai **Advances in Plants & Agriculture Research** 7, (2), 2018.
18. "Functionalization of magnetic hollow spheres with (3-aminopropyl) triethoxysilane for controlled drug release" PB Patil, VC Karade, PP Waifalkar, SC Sahoo, P Kollu, MS Nimbalkar, **IEEE Transactions on Magnetics** 53 (11), 1-4, 2017. (IF 1.651)
19. "RP-HPLC analysis of seco-iridoid glycoside swertiamarin from different *Swertia* species." Kshirsagar, Parthraj R; Pai, Sandeep R; Nimbalkar, Mansingraj S; Gaikwad, Nikhil B;, **Natural Product Research**, 30, 7, 865-868, 2016. (IF 2.158)
20. 'Phytochemical composition, antioxidant activity and HPLC profiles of *Swertia* species from Western Ghats' Kshirsagar P R; Chavan J J, **Nimbalkar M S**, Yadav S R, Dixit G B , Gaikwad N B, **Natural Product Research** 29 (8): 780-784. 2015. (IF 2.158)
21. 'Evaluating *Nothapodytes nimmoniana* population from three localities of Western Ghats using camptothecin as phytochemical marker and selection of elites using a new-content range chart

- method' Ankad G, Upadhya V, Pai S R, Nimbalkar M S, Hegde HV, Joshi R K, Kholkute S D., **Pharmacognosy magazine** 11 (41): 90. 2015. (**IF 2.158**)
22. 'Highly efficient in vitro regeneration, establishment of callus and cell suspension cultures and RAPD analysis of regenerants of *Swertia lawii* Burkill' Kshirsagar P R, Chavan J J, Umdale S D, Nimbalkar M S, Dixit G B, Gaikwad N B, **Biotechnology Reports** 6, 79-84.2015.
23. "Mutational changes in *Delphinium malabaricum* (Huth.) Munz.: a potential ornamental plant." Kolar, Firdose R; Ghatge, Swaroopa R; Nimbalkar, Mansingraj S; Dixit, Ghansham B; **Journal of Horticultural Research**, 23, 2, 2015. (**IF 0.242**)
24. "Seasonal variation in content of camptothecin from the bark of *Nothapodytes nimmoniana* (Grah.) Mabb., using HPLC analysis" Pai, Sandeep R; Pawar, Nilesh V; Nimbalkar, Mansingraj S; Kshirsagar, Parthraj R; Kolar, Firdose K; Dixit, Ghansham B; **Pharmacognosy research**, 5, 3, 219, 2013.
25. 'In vitro propagation of *Ceropegia spiralis* Wight. – An endemic and rare potential ornamental plant of peninsular India' Chavan J. J., **Nimbalkar M. S.** , Dixit G. B., Gaikwad N.B., Yadav S. R. **Proceedings of National Academy of Science, India. Sect, B** . 81: 120-126. 2011. (**IF: 0.396**).
26. 'Micropropagation and in vitro flowering of endemic and endangered plant *Ceropegia attenuata* Hook.' Chavan J. J., **Nimbalkar M. S.**, Adsul A. A., Kamble S. S., Gaikwad N. B., Dixit G. B., Gurav R. V., Bapat V. A. and Yadav S. R. **Journal of Plant Biochemistry And Biotechnology**. 20(2): 276-282. 2011. (**IF: 0.810**).
27. Corrigendum to "RP-HPLC analysis of phenolic antioxidant compound 6-gingerol from different ginger cultivars" [Food Chemistry 126 (2011) 1330–1336]" Pawar, Nilesh; Pai, Sandeep; Nimbalkar, Mansingraj; Dixit, Ghansham; <https://doi.org/10.1016/j.foodchem.2010.11.090> (**IF: 6.306**)
28. 'Reintroduction of *Ceropegia fantastica* Sedgw., a critically endangered species in Western Ghats through biotechnological tools. Chandore A. N., **Nimbalkar M. S.**, Gurav R. V., Bapat V. A. and Yadav S. R.' **Current Science**. 99(11): 1593-1596. 2010. (**IF: 0.756**).
29. 'Seasonal discrepancy in phenolic content and antioxidant properties from bark of *Nothapodytesnimmoniana* (Grah.) Mabb.'Pai S. R., **Nimbalkar M. S.**, Pawar N. V., Patil R. P., and Dixit G. B. **International Journal of Pharma and Biosciences**. 1(3): 1-17, 2010.
30. 'RP-HPLC analysis of 6-gingerol and assessment of antioxidant activities in EMS treated ginger' Pawar N. V., **Nimbalkar M. S.**, Pai S. R., Kolar F. K. and Dixit G. B. **Journal of Phytology**. 2(3): 13-23, 2010.
31. 'RP-HPLC analysis of phenolic antioxidant compound 6-gingerol from different ginger cultivars' Pawar N. V., Pai S. R., **Nimbalkar M. S.** and Dixit G. B, **Food Chemistry**. 126(2): 1330-1336, 2010 (**IF: 6.306**).
32. 'Induction of chlorophyll mutants in *Zingiber officinale* Roscoe by gamma rays and EMS.' Pawar N. V., Pai S. R., **Nimbalkar M. S.**, Kolar F. K. and Dixit G. B. **Emirates Journal of Food and Agriculture** . 22(5): 406-411, 2010 (**IF: 1.008**).

33. "A protocol for multiplication and restoration of *Ceropegia fantastica* Sedgw.: a critically endangered plant species." Chandore, AN; Nimbalkar, MS; Gurav, RV; Bapat, VA; Yadav, SR;, **Current Science**99, 11, 2010. **(IF: 0.756)**.
34. 'Biochemical characterization of banana varieties from Southern India.' Deshmukh M. H., Pai S. R., **Nimbalkar M. S.**, Patil R. P. **International Journal of Fruit Science**. 9: 305322, 2009. **(IF: 0.81)**.
35. 'Reintroduction of *Hubbardia heptaneuron* Bor, a critically endangered endemic grass in Western Ghats.' Yadav S. R., Chandore A. N., **Nimbalkar M. S.** and Gurav R. V. **Current Science**. 96(7): 880, 2009. **(IF: 0.756)**.
36. 'In vitro embryo culture and ex situ regeneration studies in *Ancistrocladus heyneanus* Wall. Ex Grah.' Pai S. R., **Nimbalkar M. S.**, Pawar N. V., Kedage V. V. and Dixit G. B. **Plant Cell Biotechnology and Molecular Biology**. 9(3and4): 95-100, 2008.