Teacher's Profile

Pankaj K. Pawar
M. Sc. Ph.D.
Biochemistry

Associate Professor
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MS, India

1. Personal Details

Name	: Dr. Pankaj K. Pawar
Date of Birth	: February 9, 1977
Sex	: Male
Marital Status	: Married
Languages known	: Marathi, Hindi and English
Postal Address	: 5, Kusum, Windflower Society, Behind Shantiniketan School, Morewadi, Kolhapur – 416 013
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2. Educational Qualification

Certificate Degree	Subjects	Name of Institution	Year	Class
Ph. D	Biochemistry	North Maharashtra University, Jalgaon, Maharashtra, India	2005	By thesis
M. Sc.	Biochemistry	North Maharashtra University, Jalgaon, Maharashtra, India	1999	Distinction

B. Sc	Chemistry	Jai Hind Senior College, Dhule, affiliated to North Maharashtra University, Jalgaon, Maharashtra, India	1997	First Class
H.S.C.	Physics, Chemistry, Maths, Biology, English	Jai Hind Senior College, Dhule	1994	Second Class
S.S.C.	Marathi, English, Science, Social Science	Jai Hind High School, Dhule	1992	Distinction

Title of Ph. D. Thesis

Plant Tissue Culture Studies in Two Medicinally Important Members of Family Solanaceae

3. Scholarships and Achievements

- **Selected as "Young Associate of Maharshtra Academy of Sciences" Government of Maharashtra.**
- **Recipient of "DBT – Post Doctoral Fellowship (DBT - PDF) from Department of Biotechnology, New Delhi"** to work at National Chemical Laboratory, Pune.
- **Recipient of "CSIR – Senior Research Fellowship"** for doctoral studies at North Maharashtra University, Jalgaon

4. Research Area of Interests

1. Biochemical Pharmacology
2. Phytochemistry
3. Molecular Biology
4. Plant Biotechnology

5. Teaching Experince: 12 years

- Scientist and Head of the Department of Herbal Biotechnology at Interactive Research

School for Health Affairs, BharatiVidyapeeth University, Pune, from 1st January 2007 to 10th August, 2010 (Taught to students of 5 years integrated course in Biotechnology)

- Assistant Professor in Biochemistry at School of Life Sciences, North Maharashtra University, Jalgaon, from 11th August, 2010 to 19th December, 2012 (Taught to M. Sc. Students in Biochemistry)
- Assistant Professor in Department of Biotechnology, Shivaji University, Kolhapur, from 26th December, 2012 to 20th August, 2014 (Taught to M. Sc. Students in Biotechnology)
- Associate Professor in Department of Biochemistry, Shivaji University, Kolhapur, since 21st August, 2014)

Degree Awarded Ph.D. Students

Sr. No	Name	Research Topic	Year
1.	Dr. ShivtejBiradar	Assessment of Effect of toxic textile dyes with special reference to aging	December, 2019

Research students working

Sr. No	Name	Research Topic	Working since
1.	Mr. SainathKasar	Studies on plant alpha amylase inhibitors and their interactions with insect amylases	July , 2014
2.	Mr. Abhijeet Herwade	Studies on plant derived protease inhibitors and its / their biological applications	August, 2015
3.	Mr. Harshad Bote	Evaluation of protective action of plant derived natural products against metabolic stress in *Saccharomyces cerevisiae*	July, 2017
4.	Ms. Samidha Kakade	Studies on alteration in oxidative stress response as a function of herbal intervention using human skin fibroblast and hepatocytes	November, 2017

6. Field of Expertise

- Isolation of pharmaceutically active ingredients from medicinally important plants
- Animal Experimentation for various disease conditions
- Drug gene interactions

7. Reviewer of International Journals

1. Reviewer of the "Critical Reviews in Biotechnology" by InformaHelth Care (I. F. 5.095).
2. Reviewer of "Pharmaceutical Biology" by Informa Health Care (I. F. 1.029).

8. Technical Skills

- **Molecular biology:** PCR, RT-PCR, Gene cloning, Western Blotting, 5^1 and 3^1 RACE, Recombinant Protein expression and purification, Construction of genomic liabrary. Establishment of molecular markers like RAPD, RFLP, SSR, ISSR for DNA fingerprinting.
- **Biochemistry and phytochemistry:** Various phytochemical techniques like extraction, purification, column chromatography, TLC, Prep TLC, HPTLC, HPLC, Preparative HPLC, GC, and spectrophotometry.
- **Pharmacology:** Evaluation efficacy of herbal medicines on various inflammatory and brain disorders using relevant animal models and correlate the pharmacological action with particular active principle in the drug by an approach of activity guided fractionation approach.
- **Plant Tissue Culture :** General plant tissue culture techniques, callus cultures, micropropagation, organogenesis, cell suspension cultures, elicitation of cell suspension cultures. Hairyroot cultures, transformation, secondarymetaboliteanalysis.

9. Funded Projects

Title	Funding Agency	Funds received	Year	Worked as
Application of plant proteinaceous α-amylase inhibitors in food processing and post harvest preservation	RGSTC, Maharashta	Rs. 68.20 Lakhs	2019 to 2022	Principal Investigator
Utilization of Proteinaceous	RGSTC -	Rs. 4.80	2019 to	Principal

Plant α-Amylase Inhibitor(s) for Post-harvest Preservation of Pulses: A Pilot Scale Study	SUK Maharashta	Lakhs	2021	Investigator
Prospecting a few medicinally important members of family solanaceae for alpha- amylase inhibitor (s) and studies on its/their interaction with insect amylases	SERB, New Delhi	Rs. 16.56 Lakhs	2014 to 2017	Principal Investigator
Prospecting *Butea monosperma*for its anti-inflammatory potential with special reference to inflammatory bowel disease	UGC, New Delhi	Rs. 13.90 Lakhs	2013 to 2016	Principal Investigator
Studies on interaction of plant alpha-amylase inhibitors with insect alpha-amylase	DBT, New Delhi	Rs. 34.41 Lakhs	2012 to 2015	Principal Investigator
Evaluation of Medhya activity of *Nardostachysjatamansi* with respect to its adulterants and substitutes using ADHD rat model	NMPB, New Delhi	Rs. 20 lakhs	2009 – 2012	Co-PI
Production of Omega – 3 Fatty acids from Microbes: Expressing cloned desaturase gene in oleaginous yeast and large scale production of omega – 3 fatty acid	DBT, New Delhi	Rs. 63.53 Lakhs	2007 to 2010	Co-PI
Towards genetic improvement of Flax for oil and agronomic traits	DST, New Delhi under Indo-Canada Collaboration Program	Rs. 166.46 Lakhs	2009 to 2012	Co-PI

10. Conferences, Workshops and Seminars Attended and Organized (6)

- International workshop on “Proteomic Insight in to Plant-Insect Interactions” 12 – 15

December, 2006. Organized jointly by National Chemical Laboratory, Pune and Max Planck Institute for Chemical Ecology, Jena, Germany.

- International symposium on "Translational Research : Natural Products and Cancer" 9-12 December, 2007. Organized by Society for Translational Research USA at Lonavala, India.

- National Seminar on "Genetically Modified Crops: Status, Issues and Awareness" 20 – 21 January, 2009. Organized by North Maharashtra University, Jalgaon.

- Member of organizing committee in state level research Festival " Avishkar: Sustainabale Growth Through Innovation" 28 – 29 December, 2011. Organized by North Maharashtra University, Jalgaon.

- National conference on "Challenges and Opportunities in Life Sciences" **(COLS-2013)**, 8 – 9 February, 2013. Organized by Shivaji University, Kolhapur.

- Organized a workshop on "Use of DNA Barcoding Techniques for Species Identification" 16 – 18 September, 2013. Department of Biotechnology, Shivaji University, Kolhapur, India.

11. Research Publications (Published)

h index: 11, Total Citations: 459

1. Sainath S. Kasar, Ashok P. Giri, **Pankaj K. Pawar** and Vijay L. Maheshwar (2019). A protein α- amylase inhibitor from Withania somnifera and its role in overall quality and nutritional value improvement of potato chips during processing. Food and Bioprocess Technology, 12: 636 - 644 .
2. Shivtej P. Biradar, Asif S. Tamboli, Rahul V. Khandare, and **Pankaj K. Pawar** (2019). Chebulinic acid and Boeravinone B act as anti aging and anti apoptosis phytomolecules during oxidative stress. Mitochondrion, 46: 236 – 246.
3. Shivtej P. Biradar, Asif S. Tamboli, Tejas P. Patil, Rahul V. Khandare, Sanjay P. Govindwar and **Pankaj K. Pawar** (2017). Phytoextracts protect *Saccharomyces cerevisiae* from oxidative stess with simultaneous enhancement in bioremediation

efficacy. Indian Journal of Experimental Biology, 55: 469 – 478 [ISSN: 0975-1009(online) 0019-5189 (Print), **I.F.: 1.475**].

4. Amey J. Bhide, Sonal M. Chanale, Yashpal Yadav, Kabita Bhattacharjee, **Pankaj K. Pawar**, Vijay. L. Maheshwari, Vidya S. Gupta, Sureshkumar Ramasamy and Ashok P. Giri (2017). Genomic and functional characterization of coleopteran specific α-amylase inhibitor gene from amaranthus species. Plant Molecular Biology, 94: 319 – 332 [ISSN: 1573-5028 (online), **I.F.: 3.905**].
5. Rahul V. Khandare, Shaileshkumar B. Desai, Sourabh S. Bhujbal, Anuprita D. Watharkar, Shivtej Biradar, **Pankaj K. Pawar** and Sanjay P. Govindwar (2017). Phytoremediation of fluride with garden ornamentals *Nerium oleander*, *Portulaca oleracea* and *Pogonatherum crinitum*. Environmental Science and Pollution Research, DOI: 10.1007/s11356-017-8424-8 [ISSN: 1614-7499 (online), **I.F.: 2.760**].
6. Sainath S. Kasar, Kiran R. Marathe, Amey J. Bhide, Abhijeet P. Herwade, Ashok P. Giri, Vijay L. Maheshwari and Pankaj K. Pawar (2017). A glycoprotein α-amylase inhibitor from *Withania somnifera* differentially inhibits various α-amylases and affects growth and development of *Tibolium castaneum*. Pest Management Science, 73: 1382 - 1390. [ISSN: 1526-4998 (online), **I.F.: 2.811**].
7. Rajani S. Kamath, Tukaram D. Dongle, **Pankaj K. Pawar** and Rajanish K. Kamat (2016). Random forest modeling for mouse down syndrome through protein expression: A supervised learning approach. Research Journal of Pharmaceutical, Biological and Chemical Sciences, 7(4): 830. [ISSN: 0975-8585(Online);**I.F: 0.35**].
8. Shweta S. Shinde, Swapneel M. Patil, Niraj R. Rane, Avinash A. Adsul, Avinash R. Gholave, **Pankaj K. Pawar**, Shrirang R. Yadav and Sanjay P. Govindawar (2016). Comprehensive investigation of free radical quenching potential, total phenol, flavonoid and saponin content and chemical profiles of twelve *Chlorophytum*Ker-Gawl species. Indian Journal of Natural Products and Resources, 7(2): 125 – 134. [ISSN: 0976-0504(Online);ISSN: 0976-0504 (Print)].
9. Shivtej P. Biradar, Niraj R. Rane, Tejas P. Patil, Rahul V. Khandare, Sanjay P. Govindwar and **Pankaj K. Pawar** (2016). Herbal augmentation enhances malachite green biodegradation efficacy of *Saccharomyces cerevisiae*. Biologia, 75 (5): 475 – 483.[ISSN: 1336-9563(Online);**I.F: 0.719**].

10. Sonal M. Channale, Amey J. Bhide, Yashpal Yadav, GarimaKashyap, **Pankaj K. Pawar**, V. L. Maheshwari, SureshkumarRamasamy and Ashok P. Giri (2016). Characterization of two Coleopteran α-amylases and molecular insights in to their differential inhibition by synthetic amylase inhibitor, acarbose. Insect Biochemistry and Molecular Biology, 74: 1-11. [ISSN: 0965-1748(Online);**I.F: 3.767**].
11. Amol U. Hivrale, Niraj R. Rane, **Pankaj K. Pawar**, Sanjay P. Govindwar (2015). Application of Genomics and Proteomics in Bioremediation, In: Toxicity and Waste Management Using Bioremediation, (Eds. Rathaure A. K. &Dhatwalia V.), IGI Global Publ. pp. 97 – 112.[ISSN: 2326-9162(Online)].
12. Asif S. Tamboli, Niraj R. Rane, Swapnil M. Patil, Shivtej P. Biradar, Pankaj K. Pawar, Sanjay P. Govindwar (2015) Physicochemical characterization, structural analysis and homology modeling of bacterial and fungal laccases using *in silico* methods. Network Modeling Analysis in Health informatics and Bioinformatics, 4(17). DOI 10.1007/s13721-015-0089-y.[ISSN: 2192-6670 (Online); ISSN 2192-6662 (Print)].
13. Niraj R. Rane, Vishal V. Chandanshive, Anuprita D. Watharkar, Rahul V. Khandare, Tejas S. Patil, **Pankaj K. Pawar** and Sanjay P. Govindwar (2015). Phytoremediation of sulfonated Ramazol Red dye and textile effluents by *AlternantheraPhiloxeroides*: An anatomical, enzymatic and pilot scale study. Water Research,83: 271 – 281.http://dx.doi.org/10.1016/j.waters. 2015.06.046.[ISSN: 0043-1354(Online);**I.F: 5.991**].
14. Pallavi Mandave, **Pankaj Pawar,** Prabhakar Ranjekar, Nitin Mantri and Aniket Kuvalekar (2014). Comprehensive evaluation of *in vitro* antioxidant activity, total phenols and chemical profiles of two commercially important strawberry varieties. Scientia Horticulturae, 172: 124-134. [ISSN: 0304-4238 (Online);**I.F: 1.538**].
15. ArunPatil, KavitaPatil, **Pankaj Pawar** and Vijay Maheshwari (2013). Isolation and survey of antibiotic sensitivity in nosocomial infections in North Maharashtra region. Journal of Association of Physicians of India, 61: 18 – 22.[ISSN: 0004-5772 (Online)].
16. Pankaj Gavit, Kiran Marathe, **Pankaj Pawar** and Vijay Maheshwari (2013). Isolation, purification, partial characterization and insect growth inhibitory activity of α-amylase inhibitor from seeds of *Amaranthus paniculatus*(Linn.). Biopesticide International, 9(1): 38 – 47. [ISSN: 0973-483X (Online)].

17. Bharat Bhalerao, Deepak Kasote, BhagyashreeNagarkar, Suresh Jagtap, KishorViswakarma, **Pankaj Pawar** and Vijay Maheshwari (2012). Comparative analysis of radical scavenging and immunomodulatory activities of *Tinosporacordifolia*growing with different supporting trees. ActaBiologica Szegediensis, 56(1): 65 – 71. [ISSN: 1588-4082 (Online); ISSN 1 588-385X (Print)].
18. Sourav Mukherjee, Swapnil Dugad, Rahul Bhandare, NayanaPawar, Suresh Jagtap, **Pankaj Pawar** and Omkar Kulkarni (2011). Evaluation of comparative free radical quenching potential of Bramhi (*Bacopamonnieri*) and Mandookparni (*Centellaasiatica*). AYU: An international quarterly journal in Ayurveda, 32(2): 258 – 264. [ISSN: 0976-9382(Online);ISSN: 0974-8520 (Print)].
19. **Pankaj Pawar**, Suhit Gilda, Siddhesh Sharma, Suresh Jagtap, Anant Paradkar, Kakasaheb Mahadik and Abhay Harsulkar (2011). Rectal gel application of *Withania somnifera* root extract denotes anti-inflammatory and muco-restorative activity in TNBS-induced Inflammatory Bowel Disease. BMC – Complimentary and Alternative Medicine, 11:34. [ISSN: 1472-6882 (Online);**I.F: 1.987**].
20. Sourav Mukherjee, NayanaPawar, Omkar Kulkarni, BhagyashriNagarkar, ShrikantThopte, AkshayBhujbal and **Pankaj Pawar** (2011). Evaluation of free-radical quenching properties of standard Ayurvedic formulation VayasthapanaRasayana. BMC – Complimentary and Alternative Medicine, 11: 38.[ISSN: 1472-6882 (Online);**I.F: 1.987**].
21. **Pankaj Pawar** and Vijay Maheshwari (2011). Plant Tissue Culture: Plant tissue culture studies in two medicinally important members of family solanaceae. LAP Lambert Academic Publishing, Germany. [ISBN: 3845403942, 9783845403946]
22. Vitthal Awad, **Pankaj Pawar** and AbhayHarsulkar (2011). Somatic embryogenesis, regeneration and *in vitro* production of glycerrhizic acid from root culture of *Tavernaria cunifolia*. *In vitro* Developmental Biology: Plants, 47: 525 – 535. [ISSN: 1475-2689 (Online); ISSN: 1054-5476 (Print); **I.F: 1.152**].
23. SouravMukharji, Suresh Jagtap, AniketKuvalekar, Yogita Kale, Omkar Kulkarni, AbhayHarsulkar, and **Pankaj Pawar** (2010). Demonstration of the potential of *Hibiscus cannabinus*Linn. flowers to manage oxidative stress, bone related disorders and free – radical induced DNA damage. Indian Journal of Natural Products and

Resources, 1(3) 322 – 327. [ISSN: 0976-0504 (Online); ISSN: 0976-0504 (Print)].

24. Suresh Jagtap, SubhashDeokule, AniketKuvalekar, **Pankaj Pawar** and AbhayHarsulkar (2010). Antimicrobial activity of some crude herbal drugs used for skin diseases by Pawara tribe of Nandurbar district. Indian Journal of Natural Products and Reseources, 1(2) 216 – 220. [ISSN: 0976-0504 (Online); ISSN: 0976-0504 (Print)].
25. Omkar Kulkarni, Sourav Mukherjee, NayanaPawar, VithalAwad, Swapnil Jagtap, VikasKalbhor, Mansi Deshpande and Pankaj Pawar (2010). Ambiguity in the authenticity of traded herbal drugs in India with a special reference to *Nordostachys jatamansi*. Journal of Herbal Medicine & Toxicology, 4(2): 229 - 235. [ISSN: 0973-4643].
26. Suresh Jagtap,SubhashDeokule, SouravMukharjee, AniketKuvalekar, Santosh Devkar, AbhayHarsulkar and **Pankaj Pawar** (2010). Assessment of nutritional value of some wild edible plants from satpura hills of Maharashtra, India. *Journal of* Herbal *Medicine& Toxicology, 4(1)77 – 82*.[ISSN: 0973-4643].
27. Suresh Jagtap,Suhit Gilda, Prashant Bhondwe, **Pankaj Pawer** and AbhayHarsulkar (2009). Validation of the potential of *Eulophiaochreata* L. tubers for its anti-inflammatory and antioxidant activity. *Pharmacologyonline,* 2: 307-316. [ISSN: 1827-8620].
28. Suresh Jagtap, Subhash Deokule, **Pankaj Pawar** and Abhay Harsulkar (2009). Traditional ethnomedicinal knowledge confined to the Pawra tribe of Satpura Hills, Maharashtra, India. Ethnobotanical Leaflets, 13: 98-115. [ISSN: 1948-3570].
29. **Pankaj Pawar**, Tushar Borse, RizwanPinjari and VjayMaheshwari (2008). A simple technique for rapid quantitative determination of solasodine from cultured hairy roots of *Solanum surattense*. Journal of Herbal Medicine*& Toxicology,* 2(1): 7 -10. [ISSN: 0973-4643].
30. AniketKuvalekar, **Pankaj Pawar**, AnkitaKhare, KanchangangaGandhe and AbhayHarsulkar (2008). Auxin – like activity of extract from hypertrophied tissue of *Acacia eburnea* infected with *Raveneliaesculenta*. Plant Cell tissue & Organ Culture, 94: 101 – 104. [ISSN: 1573-5044 (Online); ISSN: 0167-6857 (Print); **I.F: 2.390**].
31. Ahu AltinkutUncuoglu, BidyutSarmah, Kiran Sharma., P. Bhatnagar-Mathur, Milind

Ratnaparke, **Pankaj Pawar** and PrabhakarRanjekar (2007). Chickpea, In: A Compendium of Transgenic Crop Plants, Vol. 3. Transgenic Legume Grains and forages (Eds. ChittaranjanKole and Timothy C. Hall), Wiley-Blackwell Publ. Vol. 3, pp 171- 187.[ISBN: 978-1-4051-6924-0].

32. Jitendra Solanki, **Pankaj Pawar** and Vijay Maheshwari (2006). Efficient plant regeneration in *Solanum melongena* L. Physiology Molecular Biology of Plants, 12(4): 307 – 311. [ISSN: 0974-0430 (Online); ISSN: 0971-5894(Print); **I.F: 1.351**].
33. **Pankaj Pawar** and Vijay Maheshwari (2004). *Agrobacterium rhizogenes* mediated hairy root induction in two medicinally important member of family Solanaceae. Indian Journal of Biotechnology, 3: 414 – 417. [ISSN: 0975-0967(Online); ISSN: 0972-5849 (Print); **I.F: 0.287**].
34. **Pankaj Pawar**, NileshTeli, SanjeevaniBhalsing and Vijay Maheshwari (2002). A Technique for rapid micropropagation of *Solanum surattense*. Indian Journal of Biotechnology, 1: 201-204.[ISSN: 0975-0967 (Online); ISSN: 0972-5849 (Print); **I.F: 0.287**].
35. **Pankaj Pawar**, NileshTeli, SanjeevaniBhalsing and Vijay Maheshwari (2001). Micropropagation and organogenic studies in *Withania somnifera*. Journal of Plant Biology, 28 (2): 217-221. [ISSN: 1867-0725 (Online); ISSN: 1226-9239 (Print); **I.F: 0.287**].
36. SanjeevaniBhalsing, NIleshTeli, **Pankaj Pawar**& Vijay Maheshwari (2000). Regeneration and transformation of some medicinally important members of family Solanaceae. In: Plant Genetic Engineering, Vol. 3. Improvement of commercial plants (Eds. Singh R.P. & Jaiwal P. K.) Sci-Tech. Publ. Co., Texas, USA. [Serises ISBN: 1-930813-17-1; ISBN: 1-930810-04-X]
37. NileshTeli, **Pankaj Pawar**, SanjeevaniBhalsing and Vijay Maheshwari (2001). Shoot tip, cotyledon and embryonic axis culture of *Vigna mungo* [L] Hepper. Journal of Plant Biology, 27(1), 1-4. [ISSN: 1867-0725 (Online); ISSN: 1226-9239 (Print); **I.F: 0.287**].
38. SanjeevaniBhalsing, NileshTeli, **Pankaj Pawar**, PratibhaSaindane, Manisha Baviskar and Vijay Maheshwari (2001). Tissue culture grown banana: A cost-effective strategy for hardening. Physiology Molecular Biolology of Plants, 7(2), 185-189. [ISSN: 0974-

0430 (Online); ISSN: 0971-5894(Print); **I.F: 1.351**].

39. NileshTeli, **Pankaj Pawar**, SanjeevaniBhalsing and Vijay Maheshwari (2001). *In vitro* propagation of *Hyoscymusniger*through shoot tip culture. Journal of Medicinal Aromatic Plants. 23, 597-599. . [ISSN: 0253-7125(Online)]
40. NileshTeli, **Pankaj Pawar**, SanjeevaniBhalsing and Vijay Maheshwari (2000). Regeneration of *Vignaradiata* [L.] Wilczek through leaf derived callus and shoot tip culture. Physiology Molecular Biolology of Plants, 6, 61-66. [ISSN: 0974-0430 (Online); ISSN: 0971-5894(Print); **I.F: 1.351**].
41. Sanjeevani Bhalsing, NileshTeli, **Pankaj Pawar** and Vijay Maheshwari (2000). Isolation and characterization of solasodine from cultured cells of *S. Khasianum*. Journal of Plant Biology, 27, 6-9. [ISSN: 1867-0725 (Online); ISSN: 1226-9239 (Print); **I.F: 0.287**].

Dr. Pankaj K. Pawar