

## CURRICULUM VITAE



**NAME : DR. NIKHIL BABRUWAHAN GAIKWAD**

**MAILING ADDRESS : Department of Botany, Shivaji University**  
Kolhapur- 416 004

**E-MAIL : nbgaikwadsu@gmail.com**

**NATIONALITY : Indian**

**DATE OF BIRTH : 10-06-1976**

**EDUCATIONAL QUALIFICATIONS :**

Degree	University	Subject	Year of Passing	Class obtained
B. Sc.	Dr. B. A. M.U. Aurangabad (MS)	Chemistry, Botany, Microbiology	1996	I
M. Sc.	Dr. B. A. M.U. Aurangabad (MS)	Botany (Cytogenetics)	1998	I
Ph. D.	Dr. B. A. M.U. Aurangabad (MS)	Botany (Cytogenetics)	2003	
NET	CSIR-UGC	Life Sciences	June 2001	
GATE	IIT Madras	Life Sciences	Feb 2003	

**SERVICE AND TEACHING EXPERIENCE:**

Post Held	Class	Institute/University	Duration
Professor	M. Sc., Ph.D. Botany	Dept of Botany, Shivaji University Kolhapur	14-10-2018 to till today
Associate Professor (AGP 9000)	M. Sc., Ph.D. Botany	Dept of Botany, Shivaji University Kolhapur	14-10-2015 to till today
Assistant Professor (AGP 8000)	M. Sc., Ph.D. Botany	Dept of Botany, Shivaji University Kolhapur	14-10-2012 to 14-10-2015
Assistant Professor ( AGP 7000)	M. Sc., Ph.D. Botany	Dept of Botany, Shivaji University Kolhapur	14-10-2007 to 14-10-2012
Permanent Lecturer	M. Sc. Botany	Dept of Botany, Shivaji University Kolhapur	14-10-2003 to 14 -10-2007
Temporary Lecturer	M. Sc. Botany	Dept of Botany, Shivaji University Kolhapur	26 <sup>th</sup> Aug 2002 to 30 <sup>th</sup> April 2003 and 23 <sup>rd</sup> Aug 2003 to 13 <sup>th</sup> Oct 2003.
Contributory Lecturer	M.Sc. Biotechnology	Shivaji University Kolhapur	June 2004 to March 2006

**Responsibilities Shoulder:**

1. Worked as **Senate member** from PG teachers constituency of Shivaji University, Kolhapur from **Nov 2017 to Aug 2022**.
2. Worked as a **Management Council member** on Shivaji University, Kolhapur from **Feb 2018 to Aug 2022**.
3. Worked as a **Member of Grievances committee** of Shivaji University, Kolhapur from **Feb 2018 to Aug 2022**.
4. Worked as Secretary of Shivaji University Post Graduate Teachers Association (SUPTA) from **April 2015 to Dec 2020**.
5. **Worked as a Sectional Member in Botanical section of Indian Science Congress from Western India region 2022-2023.**
6. **Worked as a President of Prevention of Caste Based Discrimination Committee of Shivaji University Kolhapur from 2020 to 2024.**

**RESEARCH TOPIC:**

**“Genetic improvement of Lentil (*Lens culinaris* Medik) through mutagenesis”.**

Ph. D. work deals with induction of mutation in lentil and characterization of mutants for maturity, yield, protein content, protease inhibitor and lectin content etc.

**RESEARCH EXPERIENCE:**

Fifteen years of research experience including four years of experience for Ph. D degree under the guidance of Dr. V. S. Kothekar, Professor, Department of Botany, Dr. B. A. M. University, Aurangabad (MS).

**FELLOWSHIP RECEIVED:**

1. Junior Research Fellow from 1<sup>st</sup> Nov 2000 to 25<sup>th</sup> Aug 2002 in DAE, BRNS sponsored major research project entitled “Development of determinate, high yielding, disease resistant and low trypsin inhibitor varieties of moth bean (*Vigna aconitifolia* (Jacq) Marechal)” under the guidance of Prof. V. S. Kothekar, at Department of Botany, Dr. B. A. Marathwada University, Aurangabad Maharashtra, India.
2. **Indian Academy of Sciences, Summer Research Fellowship-** 2011, from May 2011 to July 2011, worked with Prof. H. S. Balyan, Ch. Charan Singh University Meerut on “Use of Molecular Biology and Statistical Tools Aimed at Molecular Mapping, DNA Cloning and QTL analysis”.

**PRIZE RECEIVED:**

1. Received a **second prize of best paper** presentation in National conference on Live Demonstration of Medicinal Plants at Port Blair Andaman, from 4<sup>th</sup> to 9<sup>th</sup> Feb 2011.

2. Received a prize for **best poster presentation** in National Seminar on Contemporary Approaches to Crop Improvement organized by Indian Society of Genetics and Plant Breeding and U.A.S. Bangalore from 22<sup>nd</sup> to 23<sup>rd</sup> April 2011.

#### **Achievements:**

1. **Involved in establishment of LEAD Botanical Garden at Shivaji University, Kolhapur.**
2. Involved in conservation of RET (Rare, endangered and Threatened) plant species through biotechnological tools.
3. **Involved in characterization of medicinal plants from Western Ghats of India *Swertia, Embelia, Smithia* etc**
4. **Involved in collection and conservation of rice landraces (Deshi van) from Kolhapur District.**
5. **Involved in development of improved plant types of Ajara Ghansal and Kala Jirga through mutation and improved plants are under State Trial for testing and releasing the variety for cultivation.**

#### **Abroad Visit:**

1. **International Atomic Energy Association (IAEA) Vienna,** for International Symposium on Plant Mutation Breeding and Biotechnology organized by FAO/ from **27-31 August 2018.**
2. Participated in **20<sup>th</sup> International Botanical Congress held at Madrid, Spain** from **21<sup>st</sup> to 27 July 2024.**

#### **PAPERS PUBLISHED:**

1. **N. B. Gaikwad** and V. S. Kothekar (2003) Induced morphological mutants in lentil (*Lens culinaris* Medik). J. Cytol Genet 4 (NS), 2: 99-105.
2. **N. B. Gaikwad**, S. R. Bale and V. S. Kothekar (2003) Protease inhibitors of lentil (*Lens culinaris* Medik). J. Cytol Genet 4 (NS), 2: 105-114.
3. **N. B. Gaikwad** and V. S. Kothekar (2004) Mutagenic effectiveness and efficiency of ethyl methanesulphonate and sodium azide in lentil (*Lens culinaris* Medik). Ind. J. of Genet 64 (1): 73-73.
4. **N. B. Gaikwad** and V. S. Kothekar (2004) Induced chlorophyll and morphological mutations in lentil (*Lens culinaris* Medik). Bioinfolet 1: 19-20.
5. M. M. Aitawade, **N. B. Gaikwad** and S. R. Yadav (2009) Seed morphology of some species belonging to family Convolvulaceae of Maharashtra. Bioinfolet 6(1): 71-73.
6. **N. B. Gaikwad** and V. S. Kothekar (2011) Studies on trypsin inhibitor, polyphenol and lectin content in induced mutants of lentil (*Lens culinaris* Medik). Ind. J. Genet 71(2): 158-163.
7. Jaykumar J. Chavan, Mansinghraj S. Nimbalkar, **N. B. Gaikwad**, G. B. Dixit and S. R. Yadav (2011) *In vitro* propagation of *Ceropegia spiralis* Wight. An endemic and rare potential ornamental plant of peninsular India. Proc. Nat. Acad. Sci. India Sect. B. 81: 120-126.

8. J.J. Chavan, M. S. Nimbalkar, A. A. Adsul, S. S. Kamble, **N. B. Gaikwad**, G. B. Dixit R. V. Gurav, V. A. Bapat and S. R. Yadav (2011) Micropropagation and *in vitro* flowering of endemic and endangered plant *Ceropegia attenuate* Hook. J. Plant Biochem. Biotechnol. 20(2): 276-282. **(IF- 0.412)**
9. Jaykumar J. Chavan, Parthraj R. Kshirsagar and **Nikhil B. Gaikwad** (2012) Rapid *in vitro* propagation of *Clematis heynei* M. A. Rau; an important medicinal plant. Em. J. Food Agric., 24(1): 79-84.
10. J. J. Chavan, U. B. Jagtap, **N. B. Gaikwad**, G. B. Dixit and V. A. Bapat (2013) Total phenolics, flavonoids and antioxidant activity of saptarangi (*Salacia chinensis* L.) fruit pulp. J. Plant Biochem. Biotechnol. 22 (4): 409-413 **(IF-0.412)**.
11. **N. B. Gaikwad**, R. V. Gurav and V. R. Kamble (2013) Leaf Spot of *Ophioglossum* in India- A New Report. Bionano Frontier; 6 (2): 260.
12. Jaykumar J. Chavan, **Nikhil B. Gaikwad**, Shrirang R. Yadav (2013) High multiplication frequency and genetic stability analysis of *Ceropegia panchganiensis*, a threatened ornamental plant of Western Ghats: Conservation implications. Scientia Horticulturae; 161:134–142.**(IF 1.396)**
13. Jaykumar J. Chavan, **Nikhil B. Gaikwad**, Parthraj R. Kshirsagar, Ghansham B. Dixit (2013) Total phenolics, flavonoids and antioxidant properties of three *Ceropegia* species from Western Ghats of India. South African Journal of Botany; 88:273–277.**(IF 1.495)**
14. J. J. Chavan, **N. B. Gaikwad**, P. R. Kshirsagar, S. D. Umdale, K. V. Bhat, G. B. Dixit and S. R. Yadav (2013) Application of molecular markers to appraise the genetic fidelity of *Ceropegia spiralis* – an endangered medicinal plant of South India. Curr Science, 105, 10:1348-1350. **(IF 0.897)**
15. J. J. Chavan , A. S. Nalawade , **N. B. Gaikwad**, R. V. Gurav , G. B. Dixit and S. R. Yadav (2014) An efficient *in vitro* regeneration of *Ceropegia noorjahaniae*: an endemic and critically endangered medicinal herb of the Western Ghats. Physiol Mol Biol Plants: 20(3):405–410. **(IF 0.880)**
16. S. R. Biradar, V. D. Devarkar, **N. B. Gaikwad** and B. D. Rachetti (2014) Biochemical analysis of *Asparagus racemosus* var. *javanicus* Baker. Proceedings of National Seminar on Role of Life forms in Controlling Pollution. (Dargad *et al* ) Page No. 155-161.
17. J. J. Chavan, **N. B. Gaikwad**, S. D. Umdale, P. R. Kshirsagar, K. V. Bhat and S. R. Yadav (2014) Efficiency of direct and indirect shoot organogenesis, molecular profiling, secondary metabolite production and antioxidant activity of micropropagated *Ceropegia santapaui*. Plant Growth Regul. 72:1–15 **(IF 1.990)**

18. Madhuri T. Desai, Ajay S. Nalawade, **Nikhil B. Gaikwad**, Rajaram V. Gurav, Ghanasham B. Dixit and Shrirang R. Yadav (2014) *In vitro* propagation of *Ceropegia fimbriifera* Bed an endangered, endemic plant of South India. Journal of International Academic Research for multidisciplinary Vol 2(1)124-132. ISSN: 2320-5083
19. Parthraj Kshirsagar, Tanaji More, Akalpita Arvindekar and **Nikhil Gaikwad** (2014) Antioxidant, antihyperglycemic and antiglycation properties of some *Swertia* species from Western Ghats. International Journal of Pharmacy and Pharmaceutical Sciences Vol 6, Issue 9, 303-306.
20. Chidanand C. Shete, Suryakant S. Wadkar, **Nikhil B. Gaikwad** and Kumar S. Patil (2014) Antioxidant activity and antibacterial screening of tubers of *Amorphophallus konkanensis* and *Amorphophallus bulbifer* (Araceae). International Journal of Pharmacy and Pharmaceutical Sciences Vol 6, Issue 11, 431- 436.
21. J. J. Chavan, **N. B. Gaikwad**, P. R. Kshirsagar, S. D. Umdale, K. V. Bhat, G. B. Dixit and S. R. Yadav (2015) Highly efficient *in vitro* proliferation and genetic stability analysis of micropropagated *Ceropegia evansii* by RAPD and ISSR markers: A critically endangered plant of Western Ghats. Plant Biosystems 149 Nos.1-2,442-450. (IF 1.912)
22. Ajay S. Nalawade, Madhuri T. Desai, **Nikhil B. Gaikwad**, Rajaram V. Gurav, Ghansham B. Dixit and Shrirang R. Yadav (2016) *In vitro* propagation of *Ceropegia anjanerica* Malpure, Kamble and Yadav- A rare, endemic plant from Maharashtra. Proc. Nat. Acad. Sci. India Sect. B. Volume 86, Issue 2; 275-281 (IF 0.396)
23. Parthraj Kshirsagar, Jaykumar Chavan, Mansingraj Nimbalkar, Shrirang Yadav, Ghansham Dixit and **Nikhil Gaikwad** (2015) Phytochemical composition, antioxidant activity and HPLC profiles of *Swertia* species from Western Ghats. Natural Product Research Vol. 29, No. 8, 780–784, (IF 1.225)
24. Parthraj R. Kshirsagar, Sandeep R. Pai, Mansingraj S. Nimbalkar and **Nikhil B. Gaikwad** (2015) Quantitative determination of three pentacyclic triterpenes from five *Swertia* L. species endemic to Western Ghats, India, using RP-HPLC analysis. Natural Product Research, Vol. 29, No. 19, 1783–1788. (IF 0.919)
25. Chidanand C Shete, Suryakant Wadkar, Farida Inamdar, **Nikhil Gaikwad** and Kumar Patil (2015) Antibacterial activity of *Amorphophallus konkanensis* and *Amorphophallus bulbifer* tuber. Asian J Pharm Clin Res, Vol 8, Issue 1, 2015, 98-102.
26. Parthraj R. Kshirsagar, Jaykumar J. Chavan , Suraj D. Umdale, Mansingraj S. Nimbalkar, Ghansham B. Dixit and **Nikhil B. Gaikwad** (2015) Highly efficient *in vitro* regeneration, establishment of callus and cell suspension cultures and RAPD

- analysis of regenerants of *Swertia lawii* Burkill. Biotechnology Reports 6 (2015) 79–84. (IF 1.422)
27. Parthraj Kshirsagar, Suraj Umdale, Jaykumar Chavan and **Nikhil Gaikwad (2015)** Molecular Authentication of Medicinal Plant, *Swertia chirayita* and its Adulterant Species. Proc. Nat. Acad. Sci. India Sect. B. DOI 10.1007/s40011-015-0556-3. (IF 0.369)
  28. Shete C. C., Wadkar S. S., **Gaikwad N. B.**, Patil K. S. and Ghosh J. S. (2015) Phenolic contents and antioxidant capacity of *Amorphophallus commutatus* and *Amorphophallus paeonifolius*. International Food Research Journal 2015 Vol. 22 No. 5 pp. 1939-1944.
  29. C. C. Shete, S. S. Wadkar, **N. B. Gaikwad** and K. S. Patil (2015) Cytological studies in some members of *Amorphophallus* from Western Ghats of Maharashtra. J. Cytol. Genet. Vol. 16 (NS) : 17-24 (2015).
  30. Parthraj R. Kshirsagar, Sandeep R. Pai, Mansingraj S. Nimbalkar, and **Nikhil B. Gaikwad (2016)** RP-HPLC analysis of seco-iridoid glycoside swertiamarin from different *Swertia* species. Natural Product research, VOL. 30, NO. 7, 865–868 (IF 0.919)
  31. Bhairu Shinde, Atul Madane and **Nikhil Gaikwad (2016)** Characterization of *Colletotrichum truncatum* causing anthracnose in soybean. Indian Phytopath Vol 69 (1): 75-78.
  32. Parthraj R. Kshirsagar, **Nikhil B. Gaikwad**, Subhasis Panda, Harsha V. Hegde and Sandeep R. Pai (2016) Reverse Phase-ultra Flow Liquid Chromatography-diode array detector quantification of anticancerous and antidiabetic drug Mangiferin from 11 Species of *Swertia* from India. Pharmacognosy Magazine, Jan-Mar 2016, Vol 12, Issue 45:S32-S36. ( IF 1.201)
  33. Kamble V. V. and **Gaikwad N. B. (2016)** Fourier transform infrared spectroscopy spectroscopic studies in *Embelia ribes* burm. F.: a vulnerable medicinal plant. Asian J Pharm Clin Res, Vol 9, Issue 3, 2016, 41-47.
  34. P.R. Kshirsagar, **N.B. Gaikwad**, S.R. Pai and V.A. Bapat (2017) Optimization of extraction techniques and quantification of swertiamarin and mangiferin by using RP-UFLC method from eleven *Swertia* species. South African Journal of Botany. (108): 81-89. (IF; 1.427)
  35. Suraj D. Umdale, Makarand M. Aitawade , **Nikhil B. Gaikwad** , Latha Madhavan , Shrirang R. Yadav, Satyawada R. Rao, Kangila V. Bhat (2017) Pollen morphology of Asian *Vigna* species (genus *Vigna*; subgenus *Ceratotropis*) from India and its taxonomic implications. Turk J Bot (2017) 41: 75-87. (IF; 1.169)
  36. B. N. Shinde and **N. B. Gaikwad (2017)** Morphological and pathogenicity studies

of *Colletotrichum truncatum* causing anthracnose of soybean from Vidharvbha and North Maharashtra Bionano Frontier 10 (2) 1-6.

37. Suraj D. Umdale, Pravin D. Patil , Surendra K. Malik , M. Latha , Satyawada R. Rao, Shrirang R. Yadav , **Nikhil B. Gaikwad** and Kangila V. Bhat (2017) Seed coat sculpture of subgenus *Ceratotropis* (Piper) verdc., genus *Vigna* Savi in India and its taxonomic implications. Botany Letters, 2017 <http://dx.doi.org/10.1080/23818107.2016.1273795>.
38. Suraj D. Umdale, Parthraj R. Kshirsagar, Manoj M. Lekhak and **Nikhil B. Gaikwad** (2017) Molecular Authentication of the Traditional Medicinal Plant “Lakshman Booti” (*Smithia conferta* Sm.) and Its Adulterants through DNA Barcoding. Phcog Mag ; 13 : S224-9. (IF 1.201).
39. Chavan J.J. **Gaikwad N.B.**, Dixit G.B., Yadav S.R. and Bapat V.A. (2018) Biotechnological interventions for propagation, conservation and improvement of ‘Lantern Flowers’ (*Ceropegia* spp.). South African Journal of Botany 114: 192–216. (IF 1.427).
40. Yattoo Ghulam Mohiuddin, Varsha Nitin Nathar, Wagay Nasir Aziz and **Nikhil Babruwahan Gaikwad** (2017) Chemoprofiling of volatile oil extracted from *Artemisia absinthium* L. using GC-MS. IJIPSR 5 (12),143-154.
41. Yattoo Ghulam Mohiuddin, Varsha Nitin Nathar, Wagay Nasir Aziz and **Nikhil Babruwahan Gaikwad** (2018) Induction of Callus and preliminary phytochemical profiling from callus of *Artemisia absinthium* L. and *Artemisia pallens* Wall. Int. J. of Cur Tren in Sci and Tech , Vol. 8, Issue. 02; 20236-20241.
42. Yattoo Ghulam Mohiuddin, Varsha Nitin Nathar, Wagay Nasir Aziz and **Nikhil Babruwahan Gaikwad** (2018) Investigations on important secondary metabolites from aerial parts of *Artemisia absinthium* L. using GC-MS. Journal of Pharmacognosy and Phytochemistry 7(1): 820-827.
43. Yattoo Ghulam Mohiuddin, Varsha Nitin Nathar, Wagay Nasir Aziz and **Nikhil Babruwahan Gaikwad** (2018) Comparative phytochemical investigations from aerial parts of *Artemisia pallens* Wall. using GC-MS analysis. OAIJSE, Vol 3 (1)34-40.
44. Suraj D. Umdale, Jaykumar J. Chavan, Mahendra L. Ahire, Parthraj R. Kshirsagar, **Nikhil B. Gaikwad** and Kangila V. Bhat (2018) *Vigna khandalensis* (Santapau) Raghavan et Wadhwa: a promising underutilized, wild, endemic legume of the Northern Western Ghats, India. Genet Resour Crop Evol <https://doi.org/10.1007/s10722-018-0657-y> IF: 1.294

45. Vidya Kamble and **Nikhil Gaikwad** (2019) Fluorescence analysis, phytochemical, and antioxidant activities in leaves and stem of *Embelia ribes* Burm. F. Asian J Pharm Clin Res, Vol 12, Issue 4, 225-229.
46. P.R. Kshirsagar, U.B. Jagtap, **N.B. Gaikwad**, V.A. Bapat (2019) Ethanopharmacology, phytochemistry and pharmacology of medicinally potent genus Swertia: An update. South African Journal of Botany (124): 444–483. (IF 1.504)
47. Suraj D. Umdale, **Nikhil B. Gaikwad**, Surendra K. Malik, Padmavati G. Gore, Shrirang R. Yadav, Kangila V. Bhat (2019) Seed coat polymorphism in Vigna section Aconitifoliae in India. Flora (259):151458. (IF: 1.544)
48. Avinash A. Adsul, Jaykumar J. Chavan , **Nikhil B. Gaikwad**, Rajaram V. Gurav, Ghansham B. Dixit and Shrirang R. Yadav (2019) In vitro regeneration approaches for restoration of *Ceropegia mohanramii*—an endemic and critically endangered asclepiad. Journal of Genetic Engineering and Biotechnology (2019) 17:2.
49. Krishnat Rokade , Jagdish Vishnu Dalavi, **Nikhil Gaikwad** and Shrirang Yadav (2019) A new variety of *Crotalaria prostrata* Roxb. (Fabaceae) from the Northern Western Ghats, India. Phytotaxa 414 (1): 035–040. (IF 1.185)
50. Parthraj R. Kshirsagar, Jaykumar J. Chavan , **Nikhil B. Gaikwad** , Sandeep R. Pai , and Vishwas A. Bapat (2020) Metabolite profiling, antioxidant potential and RP - UFLC determination of bioactive molecules from eight Swertia species. Biocatalysis and Agriculture Biotechnology, 23:101479.
51. Suraj D. Umdale, Amit B. Mirgal, Bhairu N. Shinde, Rahul S. Sawant, Chandrakant B. Salunkhe and **Nikhil B. Gaikwad** (2020) Evaluation of Genetic Diversity in *Antiaris toxicaria* Lesch. from Sacred Groves of the Western Ghats, India. Natl. Acad. Sci. Lett. <https://doi.org/10.1007/s40009-020-00878-3>. (IF 0.416)
52. Rokade K., Dalavi J.V., Gaikwad S., **Gaikwad N.** (2020) *Crotalaria shrirangiana* (Fabaceae): A new rattlepod from the Western Ghats of India. Phytotaxa, 449(2), pp. 188-194. (IF 1.230)
53. Kamble Vidya, Usmangani Attar, Suraj Umdale<sup>1</sup>, Mansingraj Nimbalkar, Savaliram Ghane and **Nikhil Gaikwad** (2020) Phytochemical analysis, antioxidant activities and optimized extraction of embelin from different genotypes of *Embelia ribes* Burm f.: a woody medicinal climber from Western Ghats of India. Physiology and Molecular Biology of Plants, 26, pages1855–1865 DOI 10.1007/s12298-020-00859-2 (IF 2.016)
54. Parthraj R. Kshirsagar, Ashwini Mohite, Suresh Suryawanshi, Jaykumar J. Chavan, **Nikhil B. Gaikwad** and Vishwas A. Bapat (2021) Plant regeneration through direct and indirect organogenesis, phyto-molecular profiles, antioxidant properties and swertiamarin production in elicited cell suspension cultures of *Swertia*



- minor* (Griseb.) Knobl. Plant Cell, Tissue and Organ Culture (PCTOC) 144: 383-396. DOI <https://doi.org/10.1007/s11240-020-01962-8> (IF 2.196)
55. Rokade K. H. and **Gaikwad N. B.** (2021) Karyomorphological studies in four endemic species of *Crotalaria* (Fabaceae) from India. Journal of Cytology and Genetics 2021 VOL. 22 (NS): 7–12 (IF 0.410)
  56. Jagdish Dalavi, Rohit Mane, Nikhil Gaikwad, Salviram Ghane, Yogesh Phonde and Shrirang Yadav (2021) Studies on Northernmost *Myristica* Swamp Ecosystem in Western Ghats at Bambarde- Hewale, Maharashtra, India. Phytomorphology, 71 (1&2): 41-50.
  57. Shitalkumar Desai, Akesh Jadhav, Akash Ramteke, Vinod Dhole, Vishwas Bapat and **Nikhil Gaikwad** (2021) Effects of gamma rays, Ems, and SA on biological parameters of Ajara Ghansal a non - basmati aromatic rice landrace from Kolhapur, Maharashtra. Agric Res J. 58 (3): 383-389.
  58. Shitalkumar Desai, Akesh Jadhav, Akash Ramteke, Vinod Dhole, Vishwas Bapat and **Nikhil Gaikwad** (2022) Genetic improvement of two Indian non-basmati aromatic rice landraces through physical and chemical mutagenesis. Journal of Radiation Biology. 98 (1): 82-89. (IF 3.352)
  59. Kareem HA, Saleem MF, Saleem S, Rather SA, Wani SH, Siddiqui MH, Alamri S, Kumar R, Gaikwad NB, Guo Z, Niu J and Wang Q (2022) Zinc Oxide Nanoparticles Interplay With Physiological and Biochemical Attributes in Terminal Heat Stress Alleviation in Mungbean (*Vigna radiata* L.). Front. Plant Sci. 13:842349. doi: 10.3389/fpls.2022.842349 ( IF 5.6)
  60. Dnyaneshwar Devrao Patange, Karan Sudarshan Pansare, Manoj Kumar, Arti Kumari, Dinkar Keshav Kamble, Deepak Chandran, **Nikhil Babruvan Gaikwad**, Roji Waghmare, Radha and Jose M. Lorenzo (2023) Studies on Utilization and Shelf Life of Piper betel Leaves Added Ghee-Based Low-fat Spread. Food Analytical Methods. 16 :143-154. <https://doi.org/10.1007/s12161-022-02400-5>. (IF 3.366)
  61. Vidya V. Kamble, Asif S. Tamboli, Suraj D. Umdale, Shabir A. Rather, Hongmei Liu, Shabir Hussain Wani and **Nikhil B. Gaikwad** (2023) Evaluating genetic diversity of geographically diverse populations of *Embelia ribes* Burm f., a highly medicinal woody liana from the Western Ghats of India, using random amplified polymorphic DNA (RAPD) and intersimple sequence repeats (ISSR) markers. Molecular Biology Reports, 50(2):1603-1615. <https://doi.org/10.1007/s11033-022-08099-1>. (IF 2.8).
  62. Suraj D. Umdale, Nikhil B. Gaikwad, Shaila Kadam, Mahendra L. Ahire, Pankaj S. Mundada and Kangila V. Bhat (2023 )Genetic diversity of Asian *Vigna* species ( Subgenus *Ceratotropis*; Genus *Vigna*) in India based on ITS2 sequences data. Plant

- Mol Biol Rep. 41(3): 454-469 <https://doi.org/10.1007/s11105-023-01377-7>. (IF 2.1).
63. Patange D.D., Gore R.B., Patil Y.N., Khedkar C.D., **Gaikwad N. B.** and Kalyankar S.D. (2024) Studies on suitability to incorporate *Piper betel* leave extract in flavored milk. Indian J of Dairy Science 77 (1): 1-7.
  64. Nitin T. Gore , Sumaiya S. Shaikh , Vikas A. Sule, Suraj D. Umdale, Pankaj S. Mundada, **Nikhil B. Gaikwad**, Mahendra L. Ahire (2024) Understanding the nutritional profile of *Vigna trilobata*: A lesser-known, underexplored grain legume. Food and Humanity 3 (2024) 100343.
  65. Kamble Vidya V, Shabir A. Rather, Mohsin Razaq, Banisha Phukela and **Nikhil B. Gaikwad** (2024) Elicitation of callus cultures of the medicinally important plant *Embelia ribes* Burm f. using biotic and abiotic elicitors for enhanced production of embelin. Plant Cell, Tissue and Organ Culture (PCTOC) (2024) 159:14  
<https://doi.org/10.1007/s11240-024-02858-7> (IF 2.3)
  66. Gore Nitin T., Shaikh Sumaiya S., Umdale Suraj D., Mundada Pankaj S., **Gaikwad Nikhil B.**, Ahire Mahendra L. (2025) Nutritional and antioxidant potential of *Vigna indica*: Insights for functional food development and crop improvement. Food and Humanity 4 (2025) 100475.
  67. Nitin T. Gore, Ganesh D. Mankar, Sumaiya S. Shaikh, Rajkumar B. Barmukh, Pankaj S. Mundada, Suraj D. Umdale, Gayacharan, Nikhil B. Gaikwad, Tukaram D. Nikam, Vitthal T. Barvkar, Mahendra L. Ahire (2025) Multifaceted Traits of Osmotic Stress Tolerance in *Vigna* Species: A Study of Section *Aconitifoliae* from India. Journal of Crop Health (2025) 77:98. <https://doi.org/10.1007/s10343-025-01158-0>

#### BOOK CHAPTER PUBLISHED:

1. Suraj D. Umdale, Nikhil B. Gaikwad, Mahendra L. Ahire, Pankaj S. Mundada, and K. V. Bhat (2020) Interspecific Hybridization Among *Vigna mungo* (L.) Hepper (Black Gram) and Wild *Vigna* Species. Advances in seed production and Management. Ajay Kumar Tiwari (Editor) Springer Nature Singapore Pvt Ltd.
2. Vidya V. Kamble, Vishwas A. Bapat, and Nikhil B. Gaikwad (2022) Pharmacological and Phytochemical Review of a Vulnerable Medicinal Plant *Embelia ribes* Burm. f. Phytochemistry and Pharmacology of Medicinal Plants, Volume 2: T. Pullaiah (Ed.) © 2023 Apple Academic Press, Inc. Co-published with CRC Press (Taylor & Francis). 347-363.
3. N. B. Gaikwad and V. A. Bapat (2023) Mutation Breeding Studies in the Indian Non-basmati Aromatic Rice: Success and Outlook. 539-563. Mutation breeding for sustainable Food Production and Climate Resilience. S. Penna, S. M. Jain (Eds.) Springer Nature Singapore <https://doi.org/10.1007/978-981-16-9720-3>.

**SEMINAR / CONFERENCES / SYMPOSIA / WORKSHOP/ ORIENTATION/  
REFRESHER COURSE ATTENDED:**

**A) Workshops/ Orientation/ Refresher course:**

1. The workshop on “Human Genetics” held at R. C. S. M. Govt. Medical College, Kolhapur from 11-12 Oct 2002.
2. Participated in “Basic training in recombinant DNA technology and PCR” held at Bangalore Genei, Bangalore from 17-20 Feb 2004.
3. Participated in **Orientation course** at Academic Staff College, Goa University, Goa from 28-02-2006 to 27-03-2006.
4. Participated in **Refresher Course** in the Life Sciences subject at Academic Staff College, Jawaharlal Nehru University, New Delhi from 5-1-2009 to 30-1-2009.
5. Participated in UGC sponsored **winter workshop** on modern biology and development of research programme held at School of Life Sciences, Jawaharlal Nehru University New Delhi from 14-12-2009 to 16-12-2009.
6. Participated in DBT sponsored **training course** on “Molecular Markers and their applications in Plant Sciences” organized by Department of Botany, University of Pune from 2<sup>nd</sup> to 22<sup>nd</sup> February, 2010.
7. Participated in a workshop on “Plants of Medicinal Potential from Western Ghats and Pharmaceuticals” organized by Department of Botany, Shivaji University, Kolhapur on 22<sup>nd</sup> March , 2012.
8. Participated in workshop on” Research Writings, Ethics, Plagiarism and Publishability” organized by Internal Quality Assurance Cell, Shivaji University, Kolhapur from 26<sup>th</sup> to 27<sup>th</sup> July, 2012.
9. Participated in a workshop on “ Recent advances in Research on RET species of Western Ghats” organized by Department of Botany, Shivaji University, Kolhapur on 3<sup>rd</sup> August, 2012.
10. Participated in National Conference on Importance of Scientific Terminology in Environmental Sciences in Regional (Marathi) Language organized by Dept of Environmental Sciences, Shivaji University, Kolhapur from 27-28 Oct 2012.
11. Participated in the workshop on “Tools and Techniques in Molecular Systematics /Phylogenetics” conducted by Department of Botany, Shivaji University, Kolhapur from 8<sup>th</sup> to 10<sup>th</sup> November, 2012.
12. Participated in a workshop on “ A Brain –Storming session for application of technology for sustainable development in the state of Maharashtra” organized by Maharashtra Academy of Sciences (MASc) and Shivaji University, Kolhapur from 26<sup>th</sup> - 27<sup>th</sup> November, 2012

13. Participated in Science Academies **Refresher Course** on “Modern Genetics: Concepts and Practice” organized by Manipal Life Sciences Centre, Manipal University, Manipal, India from 4-2-2013 to 16-02-2013.
14. Participated in 9<sup>th</sup> **UGC-NRC-DBS workshop** in Biological Sciences, Indian Institute of Science Bangalore from 5<sup>th</sup>-31<sup>st</sup> May 2014.
15. Participated in **Molecular Phylogeny workshop** organized by Centre for Ecological Sciences, Indian Institute of Science, Bangalore from 1<sup>st</sup> – 5<sup>th</sup> August 2014.
16. Participated in **GIAN program on Evolutionary Morphology of Land Plants** organized by Dept of Botany, Shivaji University, Kolhapur from 18-08-2016 to 25-08-2016.
17. Participated in Two Weeks Faculty Development Programme on **MANAGING ONLINE CLASSES and CO-CREATING MOOCS:2.0** organized by Ramanujan College, Delhi University from 18<sup>th</sup> May to 3<sup>rd</sup> June 2020.

#### **PAPERS PRESENTED:**

1. **N. B. Gaikwad and V. S. Kothekar** (2001) Effect of heat and germination on the trypsin inhibitor activity in lentil (*Lens culinaris* Medik). National Conference on “Plant Biotechnology for Indian Agriculture”, at Vasant Rao Naik Mahavidyalaya Aurangabad from 7-8 Oct 2001.
3. **N. B. Gaikwad and V. S. Kothekar** (2002) Biochemical characterization of moth bean (*Vigna aconitifolia* (Jacq) Marechal) mutants. National Conference on “Frontiers in Biotechnological Aspects of plant Sciences” at Dept. of Botany, Dr. B. A. M. University Aurangabad from 30-31 Jan 2002.
4. **N. B. Gaikwad and V. S. Kothekar** (2002) Mutagenic effectiveness and efficiency, morphological and biochemical characterization of mutants in lentil (*Lens culinaris* Medik). State level seminar on “Availability, Utilization and Protection of Plant Wealth” at Dept. of Botany, Dr. B. A. M. University Aurangabad on 14<sup>th</sup> Dec 2002.
5. **A.V. Kothekar, N. B. Gaikwad and V. S. Kothekar** (2002) Induced genetic variability in moth bean. State level seminar on “Availability, Utilization and Protection of Plant Wealth” at Dept. of Botany, Dr. B. A. M. University Aurangabad on 14<sup>th</sup> Dec 2002.
6. **N. B. Gaikwad, M. S. Wadikar, S. S. Kamble and V. S. Kothekar** (2005) Induced macromutations in lentil (*Lens culinaris* Medik). National Conference on “Plant Sciences” at P.V.P. College Pravaranagar, Dist Ahmednagar, from 10-12 March 2005.
7. **N. B. Gaikwad, Biradar S. R. and Kothekar V. S.** (2008) Biochemical characterization of lentil (*Lens culinaris* Medik) mutants. State level conference on

Recent trends in mycology , plant pathology and microbial biotechnology at Vinayakrao Patil College, Vaijapur Dist Aurangabad from 26-27 Sept 2008.

8. **N. B. Gaikwad, Biradar S. R. and Kothekar V. S.** (2008) Studies on lentil (*Lens culinaris* Medik) lectin content. National seminar on Recent trends in plant sciences at Milind College of Science Aurangabad from 26-27 Dec 2008.
9. **J. J. Chavan, Pawar N. V., Kshirsagar P. R. , Yadav S.R. , Dixit G.B. and Gaikwad N.B.** (2009), Rescue of *Clematis heynei* M. A. Rau through nodal bud culture a rare endemic plant of Western Ghats. “XIX Annual conference of Indian Association for Angiosperm Taxonomy and International Symposium on Angiosperm systematics and phylogeny: retrospects and prospects”, organized by National Botanical Research Institute, Lucknow, Nov 12-14 2009.
10. **J. J. Chavan, M. S. Nimbalkar, S. R. Yadav, G. B. Dixit and N.B. Gaikwad** (2010), *In vitro* propagation of *Ceropegia panchganensis* McCain. National Seminar on “Frontiers in biotechnological aspects of plant sciences” organized by Department of Botany, C. T. Bora College, Shirur on 9<sup>th</sup> – 10<sup>th</sup> January, 2010.
11. **N. B. Gaikwad, J. J. Chavan, U. P. Jagtap, G. B. Dixit and V. A. Bapat** (2011) Evaluation of antioxidant activity and phenol content in *Salacia chinensis* fruit pulp” in National conference on Live Demonstration of Medicinal Plants at Port Blair Andaman, from 4<sup>th</sup> to 9<sup>th</sup> Feb 2011.
12. **A. A. Adsul, S. S. Kamble, J. J. Chavan, G. B. Dixit, R. V. Gurav, N. B. Gaikwad and S. R. Yadav** (2011) Reintroduction and restoration of the *Ceropegia mohanrami* Yadav, Gavade *Et* Sardeasi a critically endangered species of Western Ghats. XXI Annual conference of Indian Association for Angiosperm Taxonomy (IAAT) and National Seminar on Biodiversity Conservation and climate change CSRI- Institute of Minerals and materials Technology Bhubaneshwar, Odisha from December 2-4, 2011
13. **P. R. Kshirsagar, J. J. Chavan and N. B. Gaikwad** (2012) High frequency *in vitro* regeneration of a medicinal herb *Swertia lawii* Burkill. 11<sup>th</sup> All India Conference on Cytology and Genetics at Bangalore University Bangalore from 23<sup>rd</sup> to 25<sup>th</sup> January 2012.
14. **C. C. Shete, S. S. Wadkar, N. B. Gaikwad, K.S. Patil and G. B. Dixit** (2012) Evaluation of Antioxidant Capacity and Phenol Content in *Arisaema tortuosum* Schott (Araceae) tuber. 11<sup>th</sup> All India Conference on Cytology and Genetics at Bangalore University Bangalore from 23<sup>rd</sup> to 25<sup>th</sup> January 2012.
15. **P. R. Kshirsagar, J. J. Chavan ,Nimbalkar M. S., Dixit G.B and N. B. Gaikwad** (2013) “Antioxidant properties of *Swertia densifolia* and *swertia lawii* from Western Ghats” National conference on Current scenario of Biodiversity in India, at Dept. of Botany, Dr. B. A. M. University Aurangabad, from 30<sup>th</sup> -31<sup>st</sup> January, 2013.

16. **P. R. Kshirsagar and N. B. Gaikwad (2013)** Optimization of protocol for micropropagation and RP-HPLC analysis of Triterpenic acids in *Swertia lawii* Burkill. National Conference on current prospects and challenges in life sciences at New Arts, Commerce and Science College, Ahmednagar from 26-27 July 2013.
17. **N. B. Gaikwad and S. G. Khadke (2014)** Induced mutations in soybean, (*Glycine max* (L.) Merrill). 101<sup>st</sup> Indian Science Congress, Jammu University, Jammu from 3-7 Feb 2014.
18. **N. B. Gaikwad and B. N. Shinde (2014)** Morphological and pathogenic variability in soybean anthracnose pathogen *Colletotrichum truncatum* from Western Maharashtra. National conference on Plant Pathology organized by Rajarshi Shahu College Latur, from 2-3 March 2014.
19. **S. R. Biradar, V. D. Devarkar, N. B. Gaikwad and B. D. Rachetti (2014)** Biochemical analysis of *Asparagus racemosus* var. *javanicus* Baker. National seminar on Role of Life forms in Controlling Pollution organized by Dayanand Science College, Latur from 7-8 Aug 2014.
20. **N. B. Gaikwad and S. R. Sawant (2014)** Trypsin inhibitor, Polyphenol and Lectin content in Soybean (*Glycine max* (L.) Merrill). International conference on Recent Trends and challenges in Science and Technology organized by P.D.K.V. Arts, Commerce and Science College, Pravaranagar Dist Ahmednagar from 20<sup>th</sup> -22<sup>nd</sup> August 2014.
21. **Vidya Kamble and Nikhil B. Gaikwad (2016)** Evidence of Triocy and Gender Differentiation in seed set, seed viability, germination percentage in *Embelia ribes* a vulnerable medicinal plant. XXVI Conference of Indian Association for Angiosperm Taxonomy and International Seminar On “Conservation and sustainable utilization of biodiversity” organized by Department of Botany, Shivaji University, Kolhapur on 7<sup>th</sup>-9<sup>th</sup> November, 2016
22. **Parthraj R. Kshirsagar, Nikhil B. Gaikwad, Sandeep R. Pai, Vishwas A. Bapat (2016)**. Optimization of extraction techniques and quantification of swertiamarin and mangiferin by using RP-UFLC method from eleven *Swertia* species. XXVI Conference of Indian Association for Angiosperm Taxonomy and International Seminar On “Conservation and sustainable utilization of biodiversity” organized by Department of Botany, Shivaji University, Kolhapur on 7<sup>th</sup>-9<sup>th</sup> November, 2016.
23. **C. C. Shete, S. S. Wadkar, I. F. Inamdar, S. S. Wadkar and N. B. Gaikwad (2016)** Antibacterial activity of *Amorphophallus commutatus* and *Amorphophlaeus paeonifolius*. XXVI Conference of Indian Association for Angiosperm Taxonomy and International Seminar On “Conservation and sustainable utilization of biodiversity”

organized by Department of Botany, Shivaji University, Kolhapur on 7<sup>th</sup>–9<sup>th</sup> November, 2016.

24. **S. P. Desai, V. T. Patil, and N. B. Gaikwad (2016)** Genetic Improvement of Kala Jirga Non-Basmati Aromatic Rice Cultivar through Mutation from Kolhapur, Maharashtra. International seminar on New Frontiers in Cytogenetics and XIII conference of society of cytologist and geneticists organized by Kerala university on 15-17<sup>th</sup> December 2016.
25. **N. B. Gaikwad, S. P. Desai and V. J. Dhole (2016)** Effect of physical and chemical mutagen on Ajara Ghansal Non Basmati aromatic rice cultivar from Kolhapur Maharashtra. International seminar on New Frontiers in Cytogenetics and XIII conference of society of cytologist and geneticists organized by Kerala university on 15-17<sup>th</sup> December 2016.
26. **N. B. Gaikwad and V. T. Patil (2016)** Mutagenic effects of EMS, Sa and Gamma rays on soybean (*Glycine max*) cultivars. International seminar on New Frontiers in Cytogenetics and XIII conference of society of cytologist and geneticists organized by Kerala university on 15-17<sup>th</sup> December 2016.
27. **V. V. Kamble, M. S. Nimbalkar and N. B. Gaikwad (2016)** Quantitative estimation of Embelin from *Embelia ribes* a vulnerable medicinal plant by using HPLC and production of embelin from organogenic callus culture. International seminar on New Frontiers in Cytogenetics and XIII conference of society of cytologist and geneticists organized by Kerala university on 15-17<sup>th</sup> December 2016.
28. **V. V. Kamble and N. B. Gaikwad (2018)** Phytochemical analysis and antioxidant activity of leaves and stem extract of *Embelia ribes* Burm F. A vulnerable medicinal plant. National conference on Multidisciplinary Approaches in Life Sciences: Research and Application for Sustainable Development at Yashwantrao Chavan Institute of Sciences, Satara from 5-6<sup>th</sup> Jan, 2018.
29. **B. N. Shinde and N. B. Gaikwad (2018)** Pathogenic diversity of *Colletotrichum truncatum* (Schw) Andrus and Moore from Maharashtra. National conference on Multidisciplinary Approaches in Life Sciences: Research and Application for Sustainable Development at Yashwantrao Chavan Institute of Sciences, Satara from 5-6<sup>th</sup> Jan, 2018.
30. **V. V. Kamble and N. B. Gaikwad (2018)** International Conference on Advanced Research in Life Sciences organized by S. G. M. College, Karad from 27-28 March 2018.

31. Shinde B. N. and **Gaikwad N. B. (2019)** Genetic diversity of soybean anthracnose pathogen (*Colletotrichum truncatum*) from Maharashtra. National conference on Contribution of biological research for sustainable development at Kille Dharur, Dist Beed on 14-02-2019.
32. Desai S. P., Jadhav A. G., Dhole V. J. and **Gaikwad N. B.(2019)** Effect of Different Mutagens on Quantitative Traits of Non- Basmati Aromatic Rice Cultivar Ajara Ghansal from Kolhapur. National Conference on New Trends in Biotechnology and 14<sup>th</sup> Conference of Society of Cytologists and Geneticists between 6-8<sup>th</sup> March 2019 at Davangere, Karnataka.
33. Jadhav A. G., Desai S. P., Dhole V. J. and **Gaikwad N. B. (2019)** Genetic improvement of Kala Jirga Non-Basmati Aromatic Rice Cultivar through induced Mutation from Kolhapur. National Conference on New Trends in Biotechnology and 14<sup>th</sup> Conference of Society of Cytologists and Geneticists between 6-8<sup>th</sup> March 2019 at Davangere, Karnataka.
34. Vidya Kamble and **Nikhil Gaikwad (2019)** Effect of chitosan and salicylic acid elicitation on embelin production in callus culture of *Embelia ribes* Burm f.: A medicinally important liana. National Conference on New Trends in Biotechnology and 14<sup>th</sup> Conference of Society of Cytologists and Geneticists between 6-8<sup>th</sup> March 2019 at Davangere, Karnataka.
35. Desai S. P., Jadhav A. G., Dhole V. J. and **Gaikwad N. B.(2020)** Induced mutations in Ajara Ghansal rice- a local landrace of Kolhapur District, Maharashtra. International E Conference on Innovative Research Trends in Life Sciences Organized by Shri Shivaji College of Arts, Commerce and Science, Akola in collaboration with Indian Science Congress Association Amravati Chapter from 3<sup>rd</sup> to 5<sup>th</sup> Dec 2020.
36. Lavate S. S. and **Gaikwad N.B. (2023)** Cytological studies of two *Argyreia* lour. species from Maharashtra. 46<sup>th</sup> Indian Botanical Conference and International Symposium on Synergy in Plant Science and Sustainable Future organized by Dept of Botany SGB Amravati University Amravati from 4-6 Nov 2023.
37. Londhe Ranjit K., Shitalkumar P. Desai, Akesh G. Jadhav, Vinod J.Dhole, Vishwas A. Bapat and **Nikhil B. Gaikwad (2023)** Mutagenic effectiveness and efficiency of electron beam, gamma rays and EMS in Kalbhat and Balck rice non-bsamati aromatic rice landraces. 46<sup>th</sup> Indian Botanical Conference and International Symposium on Synergy in Plant Science and Sustainable Future organized by Dept of Botany SGB Amravati University Amravati from 4-6 Nov 2023.
38. Parthraj Kshirsagar, Dnyanesh Chinte, and Nikhil Gaikwad (2024). Molecular authentication, quantification, and in vitro production of metabolites from different



*Swertia* species. 20<sup>th</sup> International Botanical Congress Madrid Spain from 21<sup>st</sup> to 27 July 2024.

39. Namrata Shedbale, Shitalkumar Desai, Vishwas Bapat and **Nikhil Gaikwad (2024)**  
Biochemical characterization of mutants of Ajara Ghansal (*Oryza sativa*) landrace from Kolhapur. 47<sup>th</sup> All India Botanical Conference and International Symposium on Biotic curiosities and functional diversity across plant kingdom in climate change regime, organized by Dept of Botany CCS University Meerut, from 16-18 Oct 2024.
40. Londhe Ranjit K., Shitalkumar P. Desai, Akesh G. Jadhav, Vinod J.Dhole, Vishwas A. Bapat and **Nikhil B. Gaikwad (2024)** Performance of putative mutants of Black Rice and Kalbhat ( *Oryza sativa*) in M3 generation. 47<sup>th</sup> All India Botanical Conference and International Symposium on Biotic curiosities and functional diversity across plant kingdom in climate change regime, organized by Dept of Botany CCS University Meerut, from 16-18 Oct 2024.
41. Sadhana Kamble, Akesh Jadhav, Vishwas Bapat and **Nikhil Gaikwad (2024)**  
Nutraceutical evaluation of mutants of Kala Jirga (*Oryza sativa* L.) non-basmati aromatic rice from Kolhapur. 47<sup>th</sup> All India Botanical Conference and International Symposium on Biotic curiosities and functional diversity across plant kingdom in climate change regime, organized by Dept of Botany CCS University Meerut, from 16-18 Oct 2024.
42. S.S. Lavate and **N.B. Gaikwad (2024)** Palynological studies of some *Argyreia* Lour species from Maharashtra. 47<sup>th</sup> All India Botanical Conference and International Symposium on Biotic curiosities and functional diversity across plant kingdom in climate change regime from 16-18 Oct 2024.

#### **POSTERS PRESENTED:**

1. **N. B. Gaikwad** and V. S. Kothekar (2003) EMS and SA induced genetic variability in lentil (*Lens culinaris* Medik). State level seminar on “Current innovative approaches in Plant Sciences” at Dept. of Botany, Dr. B. A. M. University Aurangabad on 16<sup>th</sup> Dec 2003.
2. M. S. Wadikar, S. S. Kamble and **N. B. Gaikwad** (2004) Use of other agrochemicals in the management of charcoal rot of pigeonpea caused by *Macrophomina phaseolina* resistant to carbandazim. National Seminar on “Biotechnological Approaches towards the Integrated Management of Crop Diseases” at Dept. of Botany, Dr. B. A. M. University Aurangabad, from 30-31 July 2004.

3. **N. B. Gaikwad**, S. G. Khadke and V. S. Kothekar (2005) Improvement of protein and antinutrients content in lentil (*Lens culnaris* Medik). 4<sup>th</sup> International Food Legume Research Conference, at IARI, New Delhi, from 18-22 October 2005.
4. S. G. Khadke, A. L. Bhalerao, **N. B. Gaikwad**, and V. S. Kothekar (2006) Isolation and characterization of plant genomic DNA from induced mutants of moth bean (*Vigna aconitifolia* (Jacq.) Marechal). International Symposium on "Frontiers in Genetics and Biotechnology-Retrospect and Prospect", at Dept. of Genetics and Biotechnology, Osmania University, Hyderabad, from 8-10 January 2006.
5. M. M. Aitawade, **N. B. Gaikwad** and S. R. Yadav (2007) Seed morphology of some members of Convolvulaceae of Maharashtra. XVII Annual conference of IAAT and International Seminar on "Changing scenario in Angiosperm Systematics" at Dept. of Botany, Shivaji University, Kolhapur from 19-21 November 2007.
6. **N. B. Gaikwad** and M. A. Patil (2008) Evaluation of Soybean germplasm lines for rust resistance. National Symposium on "Plant Disease Scenario in Organic Agriculture for Eco- Friendly Sustainability" and 60<sup>th</sup> Annual Meeting of IPS New Delhi at Regional Wheat Rust Research Station Mahabaleshwar Dist Satara (MS) from 10-12 Jan 2008.
7. J. J. Chavan, M. S. Nimbalkar, S. R. .Pai, N. V. Pawar, **N. B. Gaikwad**, S. R. Yadav and G. B. Dixit (2008) *In vitro* multiplication and regeneration of *Ceropegia spiralis* wight. National conference on Changing role of plant sciences in biotechnology and bioprospecting at Science College Nanded (MS) from 20-21 Sept 2008.
8. S. S. Kamble, J. J. Chavan, A. A. Adsul, K. V. C. Govasi, **N. B. Gaikwad**, R. V. Gurav, G. B. Dixit and S. R. Yadav (2010) Chromosome number report of some endemic *Ceropegia* L. species from western ghats. 33<sup>rd</sup> conference of Indian Botanical Society and International symposium on New horizons of Botany at Department of Botany Shivaji University, Kolhapur from 10<sup>th</sup> to 12<sup>th</sup> November 2010.
9. J. J. Chavan, P. R. Kshirsagar, G. B. Dixit and **N. B. Gaikwad** (2010) An improved protocol for micropropagation and conservation of *Frerea indica* Dalz- A critically endangered plant. 33<sup>rd</sup> conference of Indian Botanical Society and International symposium on New horizons of Botany at Department of Botany Shivaji University, Kolhapur from 10<sup>th</sup> to 12<sup>th</sup> November 2010.
10. Aitawade M. M, **Gaikwad N. B** and Yadav S. R. (2010), Pollen morphology of some species of Convolvulaceae from Maharashtra. XX Annual conference of Indian Association for Angiosperm Taxonomy (IAAT) and International symposium on Taxonomy, Plant Diversity and Conservation organized by Department, of Botany, Bharathiar University, Coimbatore on 26<sup>th</sup> to 28<sup>th</sup> Nov, 2010.

11. **N. B. Gaikwad** and V. S. Kothekar (2011) Studies on trypsin inhibitor, polyphenol and lectin content in induced mutants of lentil (*Lens culinaris* Medik). National Seminar on Contemporary Approaches to Crop Improvement, organized by Indian Society of Genetics and Plant Breeding and UAS Bangalore, from 22<sup>nd</sup> to 23<sup>rd</sup> April 2011.
12. S. S. Kamble, **N. B. Gaikwad**, R. V. Gurav, G. B. Dixit and S. R. Yadav (2011) Conservation and multiplication of medicinally important tree species of Western Ghats. XXI Annual conference of Indian Association for Angiosperm Taxonomy (IAAT) and National Seminar on Biodiversity Conservation and climate change CSRI- Institute of Minerals and materials Technology Bhubaneswar, Odisha from December 2-4, 2011.
13. A. N. Madane, B. N. Shinde and **N. B. Gaikwad** (2012) Cytological studies of some *Smithia* sp from Maharashtra”. 11<sup>th</sup> All India Conference on Cytology and Genetics at Bangalore University Bangalore from 23<sup>rd</sup> to 25<sup>th</sup> January 2012.
14. J. J. Chavan, P. R. Kshirsagar and **N. B. Gaikwad** (2012) An efficient protocol for shoot organogenesis and plant regeneration of *Ceropegia spiralis* Wight; an endemic and endangered plant of peninsular India. 11<sup>th</sup> All India Conference on Cytology and Genetics at Bangalore University Bangalore from 23<sup>rd</sup> to 25<sup>th</sup> January 2012.
15. **N. B. Gaikwad** and V. S. Kothekar (2012) Studies on antinutritional factors in lentil (*Lens culinaris* Medic). VI International Conference on Legume Genetics and Genomics organised by ICRISAT Hyderabad and ICAR from 2-7 October 2012.
16. A. R. Gholave, M. M. Lekhak, **N. B. Gaikwad** and S. R. Yadav (2012) Karyological Studies In *Amorphophallus commutatus* var. *anmodensis* Sivad. & Jaleel. (Araceae). The XXII Annual Conference of IAAT and International Symposium on “Innovative Prospects in Angiosperm Taxonomy” organized at Department of Botany, Sant Gadge Baba Amravati University, Amravati from 28 – 30 October, 2012.
17. P. R. Kshirsagar, J. J. Chavan, M. S. Nimbalkar, G. B. Dixit and **N. B. Gaikwad** (2012) Antioxidant properties of *Swertia chirayita* (Roxb.)H. Karsten and *Swertia* sp from Western Ghats. National Seminar on Medicinal plants: Status and Future, organized by Dept of Botany, Shivaji University, Kolhapur from 6-7 Nov 2012.
18. B. N. Shinde and **N. B. Gaikwad** (2013) “ Morphological variation in *Colletotrichum truncatum* isolates causing anthracnose from Western Maharashtra”. National conference on Current scenario of Biodiversity in India, at Dept. of Botany, Dr. B. A. M. University Aurangabad, from 30<sup>th</sup> -31<sup>st</sup> January, 2013.
19. B. N. Shinde and **N. B. Gaikwad** (2013) Pathogenic variation of soybean anthracnose pathogen (*Colletotrichum truncatum* ) from Western Maharashtra. International Conference on Biosciences with special reference to Environmental issues and 33<sup>rd</sup>

Annual session of the Academy of Environmental Biology at Shivaji University Kolhapur from 19-21 December 2013.

- 20 Shitalkumar Desai, Bhairu Shinde, Vidya Kamble and **Nikhil Gaikwad (2014)** Effect of acrylamide on onion (*Allium cepa* L) Mitosis root tips. XII Conference of Society of Cytology and Geneticists and National Symposium on Challenges for biologists in 21<sup>st</sup> Century at Shivaji University, Kolhapur from 22-24 Dec 2014.
- 21 Parthraj Kshirsagar, Suraj Umdale and **Nikhil Gaikwad (2014)** Phytochemical investigation, antioxidant activities and rp-hplc analysis of secoiridoid glycoside swertiamarin of *Swertia densifolia* (griseb.) Kashyapa. XII Conference of Society of Cytology and Geneticists and National Symposium on Challenges for biologists in 21<sup>st</sup> Century at Shivaji University, Kolhapur from 22-24 Dec 2014.
- 22 Rahul Sawant, P. R. Kshirsagar, B. N. Shinde and **N. B. Gaikwad (2014)** Effect of mutagens on mitotic behavior of soybean (*Glycine max* (L.) Merrill) root tips. XII Conference of Society of Cytology and Geneticists and National Symposium on Challenges for biologists in 21<sup>st</sup> Century at Shivaji University, Kolhapur from 22-24 Dec 2014.
- 23 M. T. Desai, A. S. Nalwade, **N. B. Gaikwad**, R. V. Gurav, G. B. Dixit and S. R. Yadav (2014) Study of micropropagation and *in vitro* flowering of *Ceropegia media* - a rare, endemic plant from Western Ghats. XII Conference of Society of Cytology and Geneticists and National Symposium on Challenges for biologists in 21<sup>st</sup> Century at Shivaji University, Kolhapur from 22-24 Dec 2014.
- 24 **N. B. Gaikwad** and R. S. Sawant (2016) Study of induced macromutants in Soybean (*Glycine max* (L.) Merrill) presented in National Conference on Genetics and Cytogenetics organized by University of Agricultural Sciences, Dharwad from 1-3 Feb 2016.
- 25 K. H. Rokade and **N. B. Gaikwad (2017)** Studies on Chromosome count of two endemic species of *Crotalaria*. XXVII Annual conference of Indian Association for Angiosperm Taxonomy and International Seminar on Plant Systematics Priorities and Challenges at Dept of Botany, Delhi University, Delhi from 10-12 Nov 2017.
- 26 S. P. Desai, A. R. Ramtake, S. C. Shete, Phonde Yogesh and **N. B. Gaikwad (2017)** Pollen and biochemical analysis of Apis honey from Kolhapur, India. XXVII Annual conference of Indian Association for Angiosperm Taxonomy and International Seminar on Plant Systematics Priorities and Challenges at Dept of Botany, Delhi University, Delhi from 10-12 Nov 2017.
- 27 A. G. Jadhav, V. T. Patil and **N. B. Gaikwad (2018)** Induced genetic variability in Soybean (*Glycine max* (L.) Merrill) through mutation. National conference on Multidisciplinary Approaches in Life Sciences: Research and Application for

Sustainable Development at Yashwantrao Chavan Institute of Sciences, Satara from 5-6<sup>th</sup> Jan, 2018.

- 28 S. D. Umdale, **N. B. Gaikwad**, S. R. Yadav and K. V. Bhat (2018) Assessment of pollen viability and in-vitro pollen germination of Asian *Vigna* [subgenus *Ceratotropis* (Piper) Verdc.] species in India. National conference on Multidisciplinary Approaches in Life Sciences: Research and Application for Sustainable Development at Yashwantrao Chavan Institute of Sciences, Satara from 5-6<sup>th</sup> Jan, 2018.
- 29 S. D. Umdale, A. B. Mirgal, R. S. Sawant, C. B. Salunkhe and **N. B. Gaikwad** (2018), Evaluation of genetic diversity and population structure of *Antiaris toxicaria* Lesch. from sacred groves of the Western Ghats, India. National conference on Multidisciplinary Approaches in Life Sciences: Research and Application for Sustainable Development at Yashwantrao Chavan Institute of Sciences, Satara from 5-6<sup>th</sup> Jan, 2018.
- 30 A. R. Ramtake, S. P. Desai and **N. B. Gaikwad** (2018) Study of diversity of rice land races from Kolhapur District. International Conference on Advanced Research in Life Sciences organized by S. G. M. College, Karad from 27-28 March 2018.
- 31 **N. B. Gaikwad**, A. R. Ramtake, S. P. Desai and V. J. Dhole (2018) Gamma rays, EMS and Sodium Azide induced genetic variability for quantitative traits in Ajara Ghansal Non-Basmati aromatic rice. **International Symposium on Plant Mutation Breeding and Biotechnology organized by FAO/IAEA Vienna, Austria** from 27-31 August 2018.
- 32 S. P. Desai, A. R. Ramtake, V. J. Dhole and **N. B. Gaikwad** (2018) Effect of Gamma rays, EMS and Sodium Azide on quantitative characters in Kala Jirga Non-Basmati aromatic rice (*Oryza sativa* L.) cultivar from Kolhapur India. **International Symposium on Plant Mutation Breeding and Biotechnology organized by FAO/IAEA Vienna, Austria** from 27-31 August 2018.
43. Jadhav A. G. and **Gaikwad N. B.** (2019) EMS, Sodium azide and Gamma rays induced genetic variability for quantitative traits in soybean. National Conference on New Trends in Biotechnology and **14<sup>th</sup> Conference of Society of Cytologists and Geneticists** between 6-8<sup>th</sup> March 2019 at Davangere, Karnataka.
44. Rokade K. H. and **Gaikwad N. B.** (2019) Chromosome count of endemic species of *Crotalaria* L. from Peninsular India. National Conference on New Trends in Biotechnology and **14<sup>th</sup> Conference of Society of Cytologists and Geneticists** between 6-8<sup>th</sup> March 2019 at Davangere, Karnataka.
45. Bhairu Shinde and **N. B. Gaikwad** (2019) Pathogenic and genetic diversity of soybean anthracnose pathogen (*Colletotrichum truncatum*) from Maharashtra. National

Symposium on Potential Crops for Food and Nutritional Security organized by Tamil Nadu Agriculture University, Coimbatore, Tamil Nadu from 14-15 Dec 2019.

46. S. P. Desai, A.G Jadhav, V. J. Dhole and **N. B. Gaikwad (2020)** Mutagenic Effectiveness and Efficiency of Radiation and Mutagen Induced Chlorophyll Mutants in Ajara Ghansal Rice Cultivar from Kolhapur (MH). ). 107<sup>th</sup> Indian Science Congress, GKVK Bangalore from 3-7Jan 2020.
47. A.G. Jadhav, S. P. Desai, V. J. Dhole , S. R. Biradar, and **N. B. Gaikwad (2020)** Biochemical characterization of rice land races from Kolhapur district of Maharashtra. 107<sup>th</sup> Indian Science Congress, GKVK, Bangalore from 3-7<sup>th</sup> Jan 2020.
48. S. P. Desai, A.G Jadhav, V. J. Dhole and **N. B. Gaikwad (2020)** Morphological characterization of Rice Landraces from Kolhapur (MS) India. National Conference on Recent trends in Plant Sciences at Milind College of Science, Aurangabad from 14-15 Feb 2020.
49. Jadhav A. G., Desai S. P., Dhole V. J. and **Gaikwad N. B.(2020)** Performance of selected desirable mutants of Kala Jirga from M3 and M4 generation. International E Conference on Innovative Research Trends in Life Sciences Organized by Shri Shivaji College of Arts, Commerce and Science, Akola in collaboration with Indian Science Congress Association Amravati Chapter from 3<sup>rd</sup> to 5<sup>th</sup> Dec 2020.
50. Rokade K. H. and **Gaikwad N. B. (2020)** Study of chromosome number of two endemic species of *Crotalaria* L. form Peninsular India. International E Conference on Innovative Research Trends in Life Sciences Organized by Shri Shivaji College of Arts, Commerce and Science, Akola in collaboration with Indian Science Congress Association Amravati Chapter from 3<sup>rd</sup> to 5<sup>th</sup> Dec 2020.
51. Kamble V. V. and **Gaikwad N. B. (2020)** *In vitro* shoot induction and multiplication of *Embelia ribes* burm F.: a vulnerable medicinal plant from Western Ghats of India. International E Conference on Innovative Research Trends in Life Sciences Organized by Shri Shivaji College of Arts, Commerce and Science, Akola in collaboration with Indian Science Congress Association Amravati Chapter from 3<sup>rd</sup> to 5<sup>th</sup> Dec 2020.
52. Shitalkumar P. Desai, Akesh G. Jadhav, Savliram G. Ghane, Vinod J. Dhole and **Nikhil B. Gaikwad (2023)** Beta-carotene analysis from Ajara Ghansal mutant lines developed through EMS, SA and gamma rays. 108<sup>th</sup> Indian Science Congress, RTM Nagpur University, Nagpur from 3-7 Jan 2023.
53. Akesh G. Jadhav, Shitalkumar P. Desai, Vinod J. Dhole and **Nikhil B. Gaikwad (2023)** Mineral analysis of stable mutants of Kala Jirga rice landrace from Maharashtra. 108<sup>th</sup> Indian Science Congress, RTM Nagpur University, Nagpur from 3-7 Jan 2023.

54. **Nikhil B. Gaikwad**, Akes G. Jadhav, Shitalkumar P. Desai, Savaliram G. Ghane and Vinod J. Dhole (2023) Studies on Beta-carotene content from stable mutants of Kala Jirga rice landrace from Maharashtra. 108<sup>th</sup> Indian Science Congress, RTM Nagpur University, Nagpur from 3-7 Jan 2023.
55. Ranjit Londhe, Shitalkumar P Desai, Akes G Jadhav, Vinod J Dhole, Vishwas A Bapat and **Nikhil B Gaikwad** (2023) Differential effects of EMS, Gamma rays and Electron Beam on biological parameters of Kalbhat and Black rice. 108<sup>th</sup> Indian Science Congress, RTM Nagpur University, Nagpur from 3-7 Jan 2023.
56. Kamble V. V. and **Gaikwad N. B. (2023)** Organogenesis and shoot regeneration from the callus culture of *Embelia ribes* burm F.: a vulnerable medicinal plant. 13<sup>th</sup> India-japan Science and technology Conclave: International conference on Frontier areas of Science and Technology organized by Shivaji University, Kolhapur from 8-9 Sept. 2023.
57. Kamble V. V. and **Gaikwad N. B. (2024)** Quantification and enhancement of embelin content by using various biotic and abiotic elicitors in *Embelia ribes* Burm f. a medicinally important plant from Western Ghats of India. International Conference on Recent advances in Bio- Nano Composites for enhancing human health, organized by Dept of Botany, Gulbarga University Kalburagi India from 8 to 9 Jan 2024.

#### **MEMBER OF SCIENTIFIC JOURNALS:**

1. Life Member of Indian Society of Genetics and Plant Breeding.
2. Life Member of Society of Cytologists and Geneticists.
3. Life member of Indian Society of Angiosperm Taxonomy.
4. Life member of Indian Botanical Society.
5. Life Member of Indian Science Congress.
6. Life member of Indian Society of Plant Breeders

#### **Worked as Resource Person:**

1. Served as Resource person for Draft Syllabus Workshop of B.Sc. III year, held at Dept. of Botany, Shivaji University, Kolhapur from 5<sup>th</sup>- 6<sup>th</sup> Nov 2004.
2. Served as Resource person for Draft Syllabus Workshop of B.Sc. III year, held at Dept. of Botany, Yeshwantrao Chavan Warana Mahavidyalaya, Warnanagar from 14 - 16 October 2005.
3. Delivered an invited talk on Role of plant tissue culture in improvement and conservation of plant in a Certificate course on Tissue culture Technology at S. C. S. College Omerga Dist Osmanabad from 8-9 Jan 2011.

4. Delivered an invited talk on How to prepare project proposal in a Research Workshop for Teachers of Shivaji University Affiliated colleges at S.G.M. College, Karad Dist Satara on 20-2-2011.
5. Served as resource person in lead college workshop on Avishkar at Y. C. Warna College, Warna on 17-10-2012.
6. Served as Resource person in Two days workshop on Nursery Techniques and deliver a talk on **Germplasm Conservation Methods** organized by Department of Botany, Shivaji University, Kolhapur from 19-20 September 2014.
7. Served as Resource person for garden visit of participants in Biodiversity and Climate change National Workshop organized by Dept of Botany, Shivaji University, Kolhapur on 31-01-2015.
8. Served as Resource person for Tissue culture training workshop at Miraj Mahavidyalaya, Miraj on 15-12-2017.
9. Served as a Resource person and delivered a talk on Role of Biotechnology in 21<sup>st</sup> Century in Bio resonance activity of Dept of Biotechnology, Y. C. I S. Satara on 21-01-2019.
10. Served as a resource person and delivered a talk on Role of induced mutation in crop improvement and crop protection at Rajarshi Shahu College, Latur on 2019.
11. Served as a resource person and delivered a talk on Role of induced mutation in crop improvement in National Conference on Recent trends in Plant Sciences at Milind College of Science, Aurangabad from 14-15 Feb 2020.
12. Served as a resource person and delivered a talk on Role of induced mutation in crop improvement and crop protection in National level Webinar organized by Devrukh Shikshan Prasarak Mandal's Arts, Commerce and Science College Devrukh on 19<sup>th</sup> Aug 2020.
13. Served as Resource person at State level workshop of **Importance of conservation of germplasm for human welfare** at late Varpudkar Science College Sonpeth, Dist Parbhani on 7-03-2022.
14. Served as Resource person and delivered a talk on **Importance of Mutation breeding in crop Improvement and Role of Karyotype studies in plants** in Prof. K. S. Deshpande memorial lecture series organized by Science College Nanded on 17-05-2022.
15. Served as Resource person and delivered a talk on **Cell Cycle and Its Regulation** in value added course for PG students organized at Dept of Botany, Shivaji University Kolhapur on 07-09-2023.



16. Served as Resource person and delivered a talk on Significance of Mutation in Plant Breeding in National Seminar at Bhavans College, Andheri, Mumbai on 22 March 2025.

#### **M. PHIL GUIDANCE:**

1. **Mr. M. M. Aitawade** (2009) Morphotaxonomical studies on some members of Convolvulaceae.

#### **Ph.D. GUIDANCE:**

1. **Dr. J. J. Chavan** (2012) *In vitro* studies in some endemic and endangered species of *Ceropegia* L. from Western Ghats.
2. **Dr. P. R. Kshirsagar** (2015) Studies in *Swertia* L. from peninsular India.
3. **Dr. S. D. Umdale** (2016) Micromorphological and Molecular studies in Asiatic *Vigna* species.
4. **Dr. B. N. Shinde** (2017) Pathogenic and genetic characterization of *Colletotrichum truncatum* causing anthracnose of soybean in Maharashtra.
5. **Dr. C. C. Shete** (2017) Biochemical and molecular studies in *Amorphophallus blumei* Decne.
6. **Dr. V. V. Kamble** (2020) *In vitro* studies in *Embelia ribes* Burm. F. a vulnerable medicinal plant.
7. **Dr. A. G. Jadhav** (2023) Collection, conservation of rice landraces from Kolhapur district and improvement of Kala Jirga non basmati aromatic rice (*Oryza sativa* L.) landrace through mutation.
8. **Dr. S. P. Desai** (2023) Genetic Improvement Of Non- Basmati Aromatic Rice Cultivar 'Ajara Ghansal' (*Oryza sativa* L.) through induced Mutation.
9. **Dr. K. H. Rokade** (2023) Cytological study of endemic *Crotalaria* species from Peninsular India.

#### **RESEARCH STUDENT WORKING FOR Ph.D.:**

1. **Mr. Ranjit Londhe** Genetic improvement of Kalb hat and Black rice through induced mutations
2. **Mr. Sourabh S. Lavate** Cytological Studies of Some *Argyreia* LOUR. Species from Peninsular India.
3. **Miss Namrat Shedbale** Biochemical and molecular characterization of stable mutants of Ajara Ghansal (*Oryza sativa* L.) from Kolhapur.
4. **Miss Sadhana D. Kamble** Biochemical and molecular characterization of stable mutants of non-basmati aromatic rice landrace kala jirga (*Oryza sativa* L.) from Kolhapur.

5. **Mr. Santosh Gojare:** Cytological studies of endemic *Smithia* species from Peninsular India.

**RESEARCH PROJECTS COMPLETED/ ONGOING:**

Sr. No	Title of Project / Scheme	Duration		Total cost (Rs.)	Funding Agency	Worked as PI / Co-I
		From	To			
1.	Studies on <i>in vitro</i> development of gametophyte, cytology and phytochemistry of <i>Ophioglossum</i> .	April 2008	March 2010	1,00,000/-	UGC	Principal Investigator
2.	Transplantation and/ or cutting of trees and new plantation along 13 road sides in Kolhapur city. (Consultancy)	Jan. 2009	Jun. 2010	5, 50,000/-	IRB company	Co-Investigator
3.	Utilization of herbals in the disease management of silkworm <i>Bombyx mori</i> L.	April 2008	March 2011	5,72,800/-	UGC	Co-investigator
4.	Digitized inventory of medicinal plant resources of Maharashtra	July 2009	June 2012	23,70,410/- ,	RGSTC Maharashtra Govt.	Team Member
5.	Establishment of Arboretum of medicinally important species of Western Ghats	Feb 2010	March 2012	20,00,000/-	DPDC Kolhapur	Principal Investigator
6	Recovery of RET species of <i>Ceropegia</i> from Western Ghats	Feb. 2010	Feb. 2015	93,55,000/-	DBT	Co-investigator
7	Multiplication and conservation of Rare, Endangered and Threatened (RET) plant species of Western Ghats	April 2013	March 2016	30,00,000/-	ENVIS Maharashtra Govt.	Co-investigator
8	Germplasm collection, domestication and Ex-Situ Conservation of Indian Palms	April 2013	March 2016	30,00,000/-	ENVIS Maharashtra Govt.	Co-investigator
9	Lead Garden –Phase II	Dec 2013	Nov 2018	99,11,389/-	MoEF	Co-investigator
10	Conservation and development of arboretum of RET and endemic tree species	Jan 2014	Dec 2019	99,99,000/-	RGSTC Maharashtra Govt.	Co-investigator
11	DNA fingerprinting of Ajara ghansal rice from Kolhapur district for geographical indication	March 2014	July 2014	80,000/-	Project Director ATMA, Kolhapur	Principal Investigator
12	Development of rust resistance and low trypsin inhibitor lines of soybean ( <i>Glycine max</i> (L.) Merrill) through mutation	July 2015	June 2018	13,49,000/-	UGC New Delhi	Principal Investigator
13	Collection of aromatic rice from Kolhapur and Genetic improvement of Ajara Ghansal through mutation	May 2016-	March 2020	32,00,900/-	DAE/ BRNS	Principal Investigator

14	Collection and conservation of rice land races and their DNA fingerprinting from Kolhapur District and improvement of Kala Jirga rice land race through mutation	August 2016	July 2020	40,29,080/-	SERB DST	Principal Investigator
----	--	-------------	-----------	-------------	----------	------------------------