Pranoti Barve
pranotibar@gmail.com Mobile: 7875722453

To carry out teaching to use my skills, knowledge for encouraging research and learning opportunities among students

Educational Qualification:

Degree/Exam	University	Institute	Passing year	Stream	Score (%)
M.Sc.	Symbiosis International University	Symbiosis School of Biomedical Sciences	2014	Biotechnology	78.77%
B.Sc.	Savitribai Phule Pune University	MES Abasaheb Garware College	2011	Biotechnology	54.21%
HSC	Maharashtra State Board	H.S.C Board	2008	Science	76.17%
SSC	Maharashtra State Board	S.S.C Board	2006	Science	89.60%

Additional qualification:

- Currently pursuing PhD in biotechnology at Department of Botany, Savitribai Phule Pune University
- Qualified CSIR NET JRF June 2016 exam with AIR 69
- Qualified MH-SET exam 2017
- Qualified GATE exam in biotechnology 2016
- Completed six months course in advanced molecular cytogenetics course at Tata Memorial Hospital, Parel, Mumbai 2015

Key skills:

- Good hands-on training for maintaining Lepidopteran insect cultures of *Plutella xylostella* and *Helicoverpa armigera* and carrying out their dissections
- Microbiology, biochemistry and molecular biology techniques. Proficiency in performing HPLC, qRT PCR, LC/MS-MS and transcriptome data analysis
- I have performed phytochemical extractions, biochemical assays, molecular biology techniques like DNA, RNA extractions, gel extraction, PCR product purification, restriction digestion, cloning, and chromatography as a part of M.Sc. practical and PhD course
- I am well versed with cell line culturing techniques. I've handled murine embryonic stem cell line and ovarian cancer stem cell line

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- I am well acquainted with *in-silico* tools like docking, protein 3D structure prediction, primer designing and with statistical data analysis. Good computer proficiency with Microsoft office, Graph pad prism software
- Good writing and presentation skills, good interpersonal skills

Research experience:

- **Currently pursuing PhD in Biotechnology at Department of Botany, Savitribai Phule Pune University (SPPU)**

My PhD project is entitled as 'Transcriptional responses of *Plutella xylostella* ABC transporters upon feeding on Brassicaceae'. As a part of project, we have performed feeding experiments with *P. xylostella* on high dose of its host metabolite. Firstly, host metabolite from *Brassica oleracea* var capitata was detected and quantified by High Performance Liquid Chromatography (HPLC) method. Larval performance was recorded. We carried out Scanning Electron Microscopy (SEM) analysis of larvae post feeding with the metabolite. Transcriptional response of *P. xylostella* was checked using several approaches. Effect of high dose of host metabolite was studied by carrying out metabolomics and transcriptomics. Validation of Differentially Expressed Genes (DEGs) was carried out by qRT PCR. We compared larval performance of both *P. xylostella* (Specialist) and *Helicoverpa armigera* (Generalist). Also, we deciphered fates of host and non-host metabolites in both the insects by metabolomics approaches

● **Molecular Cytogenetics Course** (TMH, Parel, 2014-2015)
I joined Tata Memorial Hospital (TMH) for advanced molecular cytogenetics course. During that period, I was trained in carrying out cytogenetic preparation and analysis of bone marrow, peripheral blood samples from myeloid leukemia- lymphoma patients. Also, I carried out GTG banding, ploidy analysis, karyotyping using ASI image analyzer system and Fluoroscent In Situ Hybridization (FISH) technique. DNA extraction and PCR were carried out for myeloid leukemia bone marrow samples

●**''Isolation and Identification of Gallic acid from fruit of *Emblica officinalis* by HPLC and its biochemical characterization by *in vitro* assays"** (2014)
Extraction and detection of total polyphenols was carried out from fruits of *Emblica officinalis*. Microwave Assisted Extraction (MAE) was used for total polyphenols.
Folin-Ciocalteu method was used for detection of total polyphenols. TLC and HPLC techniques were used for confirmation of gallic acid. DPPH and alpha glucosidase assays were performed to study antioxidant and anti-diabetic potential of amla

● **"Identification and confirmation of targets of CARF in ovarian cancer cell line by ChIP (Chromatin Immunoprecipitation) PCR"** (NCCS, Pune, 2013)
I worked as a project trainee at NCCS for period of six months. During the period, I gained experience in handling mammalian tissue culture and protein biochemistry techniques. I assisted in carrying out ChIP and further ChIP PCR. Targets of protein in ovarian cancer cell line were identified. Primers were designed. Genomic DNA was amplified and run on 1% agarose gel. The amplified DNA bands were

excised using Gel extraction kit, quantified using nanodrop instrument then further sent for sequencing. Meanwhile, Whole Genome Amplification Kit was used to improve the yield

● **Isolation and Identification of microorganisms from pasteurized milk and curd** (2011)
Pasteurized milk and curd samples were studied and isolates obtained from these were identified on the basis of Bergey's manual. Out of fifteen isolates one was identified as *Streptoccus lactis* spp. Using *Streptococcus lactis* culture, probiotic curd and cheese were prepared. Culture techniques were used to isolate microorganisms from pasteurized milk and curd. Bergey's manual of determinative bacteriology was used to identify microorganisms

Publications:

1. Barve PR, Tellis MB, Barvkar VT, Joshi RS, Giri AP, Kotkar HM. Functional Diversity of the Lepidopteran ATP-Binding Cassette Transporters. J Mol Evol. 2022 Aug;90(3-4):258-270. doi: 10.1007/s00239-022-10056-2. Epub 2022 May 5. PMID: 35513601 (IF: 3.9)
2. Kumar, Vinay & Shaikh, Samrin & Barve, Pranoti & Shriram, Varsha. (2018). A critical review on Nepal Dock (*Rumex nepalensis*): A tropical herb with immense medicinal importance. Asian Pacific Journal of Tropical Medicine. 11. 405. 10.4103/1995-7645.237184 (IF: 3.0410)

Research articles communicated:

High levels of sinigrin trigger the transport of fatty acids to the cuticle of *Plutella xylostella* (L.)

Research articles under preparation:

Specialists and generalists Lepidopterans exhibit developmental plasticity towards host and non-host plant secondary metabolites

Workshops and Conferences:

- Attended International virtual symposium on 'OMICS in Redefining Biology' 2021, organized by CCMB Hyderabad
- Attended and presented a poster at 92 nd Annual Meeting Society of Biological Chemists year 2023, BITs PILANI, GOA CAMPUS
- Attended and presented at National Conference on Plant "Omics": Recent Trends and Applications year 2024 organized by Department of Botany, SPPU
- Attended and presented a poster at poster presentation competition on the occasion of National Educational Policy (NEP) week at Department of Botany, SPPU year 2023
- Attended and presented at 2nd International conference, "Integrative Biology and Applied Genetics" (ICIBAG-2022) organized by Osmania University, Hyderabad
- Attended and presented a poster at National Conference on Recent Advances in Plant Sciences and Biotechnology year 2023 organized by Goa university
- Participated in the three-day "Capacity Building Workshop for the Early Career Researchers" year 2024 jointly organized by iRISE programme, IISER Pune and Savitribai Phule Pune University
- Glimpses and Glories of Animal Tissue Culture organized by Department of Zoology,

S. College, Pune
- "Opportunities in field of biotechnology" seminar organized by Garware College, Pune.
- 'Biocrat' organized by Persistent, Pune
- Attended "Generations 2011", an event organized by biotechnology department, IIT Bombay.
- Attended soft skill development workshop organized by Abasaheb Garware College

Awards:

1. Received best oral presentation award at National Conference on Plant "Omics": Recent Trends and Applications
2. Received best poster award at poster presentation competition on the occasion of National Educational Policy (NEP) week
3. Received best oral presentation award at 2nd International conference, "Integrative Biology and Applied Genetics" (ICIBAG-2022)

Name and contact details of referees:

1.Dr. Hemlata Kotkar
Assistant professor, Department of Botany
SP Pune University
Mobile no: 9767898425
Email id: hema.kotkar@gmail.com

2.Dr. Neeti Sharma
Associate Professor, Ajeenkya D Y Patil University, Pune
Email id: neetimohan27@gmail.com

Co-curricular activities:

- I have participated and actively volunteered in Millet Exhibit activities by Centre for Millet Research and Training, Department of Botany, Savitribai Phule Pune University
- I conducted a session on important topics from biochemistry module of CSIR UGC NET JRF exam for MSc students
- Worked as a volunteer in a collaborative activity organized by Department of Biotechnology, Abasaheb Garware College and KISAN forum

Extra-curricular activities:

- Represented college hostel in NAAC peer team visit at Garware College
- Won first prize in running race at Abasaheb Garware College
- Won 2nd position in inter college corf ball competition at undergraduate level

Personal Information

Name: Pranoti Rohit Barve
Maiden name: Maindargikar Pranoti Makarand Swati
Date of Birth: 14 DEC 1990
Gender: Female

Pranoti Barve
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Nationality: Indian
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The above-mentioned details are true to the best of my knowledge.

Pranoti R. Barve
Pune