Information for profiling

Basic Info.	Name: Dr. (Mrs.) Rupali Seth Designation: Associate Professor Department: Botany E-mail: rupali.seth@fergusson.edu; rupaliseth@gmail.com Work experience: 19 years Teaching: 16 years Research: 19 years
Personal Profile	Presently serving as an Associate Professor in the Department of Botany, Fergusson College (Autonomous), Pune with teaching experience at undergraduate and postgraduate level for more than 16 years. Completed Ph.D. from CIMAP-CSIR (Central Institute of Medicinal and Aromatic Plants, CSIR, Lucknow, India) and Department of Botany, Lucknow University, Lucknow, India. Gained Post doc research experience at National Chemical Laboratory, Pune, India. With expertise in Plant Tissue Culture carrying out research on salinity stress and secondary metabolite production in plants through in vitro approaches. Published research papers in journals of repute, chapters in books and papers in conference proceedings. Presented research papers and participated at several national and international conferences/seminars/symposia/workshops. Recognized Ph.D. guide from Savitribai Phule Pune University, supervising two Ph.D. students. Guided several students towards successful completion of undergraduate and postgraduate

	research projects. Completed UGC Minor Research Project and UG-CPE projects. A passionate educator, researcher and mentor striving for betterment of the student community.
Course(s) Taught	 Plant Diversity Morphology and Anatomy Plant Resources: Management and Utilization Phytochemistry Industrial Botany Plant Ecology and Utilization of Plants Plant Physiology and Metabolism Plant Biotechnology Economic Botany and Biotechnology Molecular Biology Computational Botany Techniques in Plant Science and Biostatistics Industrial Plant Tissue Culture Plant Physiology and Biochemistry
Field of specialization	Botany-Plant Tissue Culture
Education Qualifications (upto Graduation) Awards, Honors	B.Sc., M.Sc., Ph.D. Stood Second in order of Merit at M.Sc.
Employment History	 Project Associate (2003 - 2006) - Plant Tissue Culture Division, National Chemical Laboratory, Dr. Homi Bhabha Road, Pune 411008, India. Associate Professor (Since Jan 2018); Assistant Professor (2010 - 2015); Lecturer (2006 - 2010)

	Department of Botany, Fergusson College (Autonomous), Pune 411004, India.
Research	Ph.D. "In vitro selection of biochemical mutants with special reference to amino acid analogue tolerance in some important medicinal plants" CIMAP (CSIR)/University of Lucknow (1997-2002) Project Associate under "Programme for Micropropagation Research and Technology Development" - Plant Tissue Culture Division, National Chemical Laboratory, Dr Homi Bhabha Road, Pune 411008, India. (2003 - 2006)
	 Completed research projects UGC- New Delhi "Assessment of genotypic variation for salinity tolerance of some commonly cultivated varieties of tomato in Maharashtra" (2010 – 2012) CPE-UG- Fergusson College (Autonomous), Pune- "Morphological Diversity in Angiosperms" (2014-2015) CE- UG Mini Project under MAST program-Fergusson College (Autonomous), Pune- "Effect of seed priming on germination response in Pea" (2018-2019) CE- UG Mini Project under MAST program-Fergusson College (Autonomous), Pune "Phytochemical Analysis of <i>Tinospora</i>" (2019-2020) Ph.D. Students Guiding Mrs. Kalyani Deepak Salunke registered on the topic "In vitro studies on seed

- priming in legumes for alleviating salinity stress" for Ph.D. degree from Savitribai Phule Pune University. (Ref. No. PGS/Ph.D./3294 15/02/2020)
- Guiding Mrs. Sheetal Abhay Vedpathak registered on the topic "Studies on *in vitro* abiotic elicitation of *Andrographis paniculata* Ness for enhancing secondary metabolites" for Ph.D. degree from Savitribai Phule Pune University. (Ref. No. PGS/Ph.D./3353-15/02/2020)

Projects Guided (UG and PG)

- Guided Ms. Monica Lalchan for B.Sc. project entitled "Effect of salt stress on proline production in Chickpea in vitro" submitted to Vocational Biotechnology Department, Fergusson College (2008-2009).
- Guided Ms. Bhavya Garg for B.Sc. project entitled "Effect of salt stress on proline production in *Pisum sativum* L. in vitro" submitted to Vocational Biotechnology Department, Fergusson College (2008-2009).
- Guided Ms. Khawlhring Lalnunpuii for M.Sc. project entitled "Effect of seed pre-treatment towards salinity tolerance in tomato (

 Lycopersicon esculentum Mill.) plants under in vitro conditions" submitted to University of Pune, for the degree of Master of Science in Botany (2011-2012).
- Guided Ms. Vikutonu Zhotso for M.Sc. project entitled "Response to salinity by different varieties of tomato (Lycopersicon *esculentum* Mill.) in vitro" submitted to University of Pune,

- for the degree of Master of Science in Botany (2011-2012).
- Guided Mr. Sanket Sushil Kumar Pandit for M.Sc. project entitled "Impact of salt stress on growth, chlorophyll and proline content in Chilli (*Capsicum annuum*) at seedling level." submitted to University of Pune, for the degree of Master of Science in Botany (2012-2013).
- Guided Ms. Harshali Chaudhari for project entitled "Effect of priming on salt tolerance in tomato in vitro" submitted to Pune Inter College Consortium (PICC) and Muktangan Exploratory Science Centre, Pune (2012-2013).
- Guided Ms. Khopeno. T. Khuvung for M.Sc. project entitled "Response towards salinity stress in *Phaseolus* in vivo and in vitro" submitted to University of Pune, for the degree of Master of Science in Botany (2013-2014).
- Guided Ms. Parvati A. More for M.Sc. project entitled "In vivo and in vitro effect of NaCl stress on Chilli (*Capsicum frutescens* L.)" submitted to University of Pune, for the degree of Master of Science in Botany (2013-2014).
- Guided Mr. Jenthoi Pamei for M.Sc. project entitled "Effect of seed priming on salinity tolerance in Chilli (*Capsicum annuum* L.) in vitro" submitted to University of Pune, for the degree of Master of Science in Botany (2014-2015).
- Guided Ms. Alice Pamei for M.Sc. project entitled "Effect of salicylic acid on tomato (*Lycopersicon esculentum* Mill.) under salinity stress" submitted to University of Pune, for the

	degree of Master of Science in Botany (2014-2015).
Publications	Journals
Publications	 Selection of 3-fluorotyrosine tolerant callus lines in two cultivars of opium poppy (<i>Papaver somniferum</i> L.) and regeneration of plants through somatic embryogenesis. Rupali Khanna, Ajay Kumar Mathur and Nirmal Kishore Mehrotra, Current Science Vol 88 (2), 274-280, 2005 Selection of 5 - methyltryptophan-resistant callus lines with improved metabolic flux towards terpenoid indole alkaloid synthesis in <i>Catharanthus roseus</i>. Rupali Seth and Ajay Kumar Mathur, Current Science, Vol 89 (3), 544-548, 2005 In vitro multiplication of <i>Casuarina equisetifolia</i> Frost. from mature tree derived explants. Rupali Seth, Suchishweta Kendurkar and Rajani Nadgauda, Current Science Vol 92 (3), 287-290, 2007 Effect of NaCl priming on salt tolerance in tomato seedlings in vitro. Rupali Seth and K. Lalnunpuii. Environment Observer, 13, 113-
	114, 2013.
	• In vitro screening: An effective method for evaluation of commercial cultivars of tomato
	towards salinity stress. Rupali Seth and
	Shuchishweta V Kendurkar. International
	Journal of Current Microbiology and Applied
	Science, 4(1), 725-730, 2015
	Biochemical changes in commercial cultivars of tomato under in vitro salinity stress. Rupali

- Seth and Shuchishweta V Kendurkar. Advance in Plant Sciences, 29 (1), 119-122, 2016
- Hydropriming alleviates salinity stress in commercial cultivars of Tomato (*Solanum lycopersicum* L.) under in vitro conditions. Rupali Seth. Advance in Plant Sciences, 30 (II), 157-160, 2017
- Assessment of salinity tolerance in tomato cultivars grown in Maharashtra, India. Rupali Seth. Annals of Plant Science, 7.5, 2259-2261, 2018
- In vitro studies on Tomato (*Solanum lycopersicum* L.) cultivars in presence of artificial sea water. Rupali Seth, Shuchishweta V Kendurkar and Anukool Vaishnav. Advance in Plant Sciences, 33 (I-II), 9-12, 2020.
- Screening for salinity tolerance in tomato during germination using in vitro approach- A Review. Rupali Seth. International Journal of Botany Studies, 7 (1), 121-125, 2022.

Books

- In vitro studies in an alkaloid yielding medicinal plant *Catharanthus roseus* (L.) G. Don. Rupali Seth, Ajay Kumar Mathur and Rajani Nadgauda. In: Advances in Medicinal Plants Vol II (Eds. Prajapati ND, Prajapati T and Jaipuria S), pp 159-170, Asian Medicinal and Aromatic Plants and Health Care Trust, Jodhpur, 2006.
- Biotechnological intervention in designing specialty medicinal herbs for 21st century: Some emerging trends in pathway modulation through metabolic engineering. Mathur AK, Mathur A, Seth R, Verma P and Vyas D. In:

Herbal Drugs – A Twenty First Century Perspective, (Eds. Sharma RK and Arora R), pp 83-94. Jaypee Brothers Medical Publishers (P) Ltd. New Delhi, 2006

Conference Proceedings

- Effect of salt stress on proline accumulation in *Cicer arietinum* L. in vitro. Monica Lalchan, Bhavya Garg and Rupali Seth. In: Proceedings of International Conference on Biodiversity and Conservation, Modern College of Arts, Science and Commerce, 28th to 30th Jan 2011
- Response of *Pisum sativum* L. towards salt stress in vitro. Bhavya Garg, Monica Lalchan and Rupali Seth. In: Proceedings of National conference on Biodiversity Monitoring and Research Current Practice and Future Needs, Fergusson College, Pune, 7th and 8thDecember, 2012.
- Effect of priming on germination and seedling growth of tomato under in vitro saline conditions. Harshali Chaudhari and Rupali Seth In: Proceedings of National Conference on Modern Analytical Techniques in Microbiology, Fergusson College, Pune, 17th and 18th January, 2014.

Papers Presented in Conference

• In vitro screening: an effective tool for evaluation of commercial cultivars of tomato (*Lycopersicon esculentum* Mill) towards salt stress. In National Symposium on "Advances in Plant Molecular Biology and Biotechnology and 35th Annual Meeting of PTCA (India)" organized by Plant Molecular Biology Lab,

- Biology Division, IISER, Pune, 10th to 12th March 2014.
- In vitro studies in *Phaseolus* towards salinity stress. In: "International Conference on Innovative Trends in Chemical, Physical and Biosciences", organaized by PDEA'S Annasaheb Magar Mahavidyalaya, Hadapsar, Pune, 9th to 10th Feb. 2016.
- Influence of salinity on seedling growth in commercial tomato (*Solanum lycopersicum* L.) cultivars. In: "National Conference on Current Trends in Biodiversity Conservation and Climate Change" organized by Bharati Vidyapeeth Deemed University, Y.M. College, Pune, 24th to 25th Feb. 2016.
- Effect of in vitro salt stress in germination and growth parameters in Chilli (*Capsicum annuum* L.). In: International Conference on Frontiers in Life Sciences and Earth Sciences, organized by PDEA'S Prof. Ramkrishna More Arts, Commerce and Science College, Akurdi, Pune, 18th to 19th Jan. 2018.
- In vitro response of Cowpea towards salinity stress at seedling stage. In: International Conference on Changing Perspectives in Environment, Management, Humanities, Science and Technology, jointly organized by Lalbahadur Shastri, Sr. College, Partur Dist. Jalna, ASC College, Sonai, Ahmednagar, Yuvaraja's College Mysuru, Karnataka, 14th to 15th July 2022.

Participations in Conferences/Seminars /Symposia/Workshop

- One Day Seminar on Biophysics, Department of Biotechnology, Fergusson College, Pune, 31st Oct 2006.
- Workshop on Restructuring of S.Y.B.Sc. Botany Theory Syllabus, Department of Botany, Nowrosjee Wadia College, Pune, 24th Jan 2009.
- Evolutionary Biology Workshop, Abasheb Garware College, Pune, 12th to 14th Feb 2009.
- Seminar on Advanced Techniques in Biosciences, Department of Botany, Fergusson College, Pune, 17th Feb 2009.
- Symposium on Nanomaterials and their Applications, Fergusson College, Pune, 4th to 6th March 2009.
- One Day Seminar on Revised Syllabus of SYBSc Botany Practicals, Abasheb Garware College and BCUD, University of Pune, 11th July 2009.
- National Conference on Climate Change and Challenges in Biodiversity Conservation, Department of Zoology, Fergusson College, Pune, 11th and 12th Dec. 2009.
- National Conference on Recent Trends in Life Sciences, Annasaheb Magar Mahavidyalaya Hadapsar, Pune, 18th and 19th Dec. 2009.
- National Workshop on "Computer Assisted Instruction with special reference to Computer Assisted Language Learning", Department of English, Fergusson College, Pune, 4th to 6th March 2010.
- Training workshop on "Mentoring Skills", Department of Psychology, Fergusson College, Pune, 15th October 2010.

- One day seminar on "Energy conservation and Environmental Protection" jointly organized by Department of Environmental Sciences, Fergusson College, Pune and Petroleum Conservation Research Association, Mumbai (under Ministry of Petroleum and Natural Gas, Govt. of India), Fergusson College, Pune, 20th July 2011.
- International conference on "Current Trends in Medicinal Plants Research", Department of Botany, University of Pune, 10th to 12th Jan. 2012.
- National workshop on "Technology of Environmental Monitoring" sponsored by University Grants Commission (Western Regional Office), organized by Department of Botany, Bharati Vidyapeeth Deemed University-Yashwantrao Mohite College, Pune, 23rd to 27th Jan. 2012.
- Workshop on F.Y.B.Sc. Question Bank Preparation under "Examination Reforms – UGC XI Plan", Fergusson College Pune, 28th to 30th March 2012.
- One day seminar on "Recent Trends in Mycology and Plant Pathology" P.G.
 Department of Botany, Fergusson College, Pune, 17th August 2012.
- National conference on "Biodiversity
 Monitoring and Research Current Practice and
 Future Needs" sponsored by University Grants
 Commission, organised by Department of
 Zoology, Fergusson College, Pune, 7th and 8th
 December, 2012.

- National conference of Indian Aerobiological Society on Impact of Airborne Microbes jointly organized by MAEER's, Arts, Commerce and Science College and Maharashtra Institute of Pharmacy Pune, 13th to 15th December, 2012.
- National seminar on "Recent Trends in Life Sciences" sponsored by University Grants Commission, organized by Department of Botany, Bharti Vidyapeeth Deemed University, Yashwantrao Mohite College, Pune, 21st and 22nd December, 2012.
- Workshop on "Metals in Health and Diseases", organized by Agharkar Research Institute, Pune, 8th Jan. 2013.
- One day seminar on "Concepts in Biotechnology" organized by Department of Botany, Fergusson College, Pune, 13th February, 2013.
- One day seminar on "Health and Nutrition" organized by Department of Environmental Science, Pune University in association with IWSA, Pune branch, 8th March 2013.
- State level Conference on "Autonomy to colleges and role of IQAC", organized by Fergusson College, IQAC, Pune, 10th and 11th Sept. 2013.
- National Conference on "Frontiers in Physical, Chemical and Biological Sciences" organized by Department of Chemistry, University of Pune, Pune, 4th to 6th Oct.2013.
- National Conference on "Modern Analytical Techniques in Microbiology" organized by Department of Microbiology, Deccan

- Education Society's Fergusson College, Pune, 17th and 18th January 2014.
- National Symposium on "Advances in Plant Molecular Biology and Biotechnology and 35th Annual Meeting of PTCA (India)" organized by Plant Molecular Biology Lab, Biology Division, IISER, Pune, 10th to 12th March 2014.
- Workshop on Practical Syllabus of S.Y.B.Sc Botany, w.e.f. June 2014, organized by Department of Botany, Nowrosjee Wadia College, Pune, 11th July 2014.
- International Conference on "Innovative Trends in Chemical, Physical and Biosciences" organized by PDEA'S Annasaheb Magar Mahavidyalaya, Hadapsar, Pune, 9th to 10th Feb 2016.
- National Conference on "Current Trends in Biodiversity Conservation and Climate Change" organized by Bharati Vidyapeeth Deemed University, Y.M. College, Pune, 24th Feb to 25th Feb 2016.
- Seminar on "Advances in Plant Biotechnology", organized by PG Department of Botany, Fergusson College, Pune, 22nd Aug. 2016
- 5th Bharatiya Vigyan Sammelan and Expo organized by Fergusson College, Pune, 11th to 14th May 2017.
- Workshop on "Applications of Geoinformatics in Geographical and Botanical Studies", organized by Department of Botany and Department of Geography, S. P. College, Pune, 30th to 31st Jan. 2017.

- Training Programme on "Use of ICT for Effective Teaching" organized Deccan Education Society, 17th to 20th June 2017.
- Workshop on "Understanding and Exploring the Interfaces Between Biology and Biotechnology", organized by Department of Biotechnology, P.E.S Modern College of Arts, Science and Commerce, Pune from 1st to 3rd Nov. 2017.
- Hands on training workshop on "Electrophoretic Techniques" organized by Fergusson College (Autonomous), Pune, 12th to 13th Jan 2018.
- Conference on Innovative Teaching Pedagogy, organized by Department of Zoology, Modern College of Arts, Science and Commerce and SPPU Pune, 22nd to 23rd Feb. 2019.
- National Online Seminar on "Creation of MOOCs" organized by Deccan Education Society's Kirti M. Doongursee College of Arts, Science and Commerce, Dadar, Mumbai, 27th April 2020.
- National Webinar on "Potential and Applications of Indigenous Bio-Resources" organized by Department of Botany, Zoology, Biotechnology and Microbiology of S.S.V.P.Sanstha's L.K.Dr.P.R.Ghogrey Science College, Dhule, 14th May to 15th May 2020.
- Online International Conference on "Biodiversity Conservation and Tourism" organized by Shri S.H.Kelkar College of Arts, Commerce and Science, Devgad Dist., Sindhudurg, 17th May 2020.

- National Level Webinar on "Post Covid Academic Scenario" organized by North Maharashtra University and College Teachers Association, Jalgaon, 18th May to 22nd May 2020.
- Online Workshop on "Research Writing and Legal Aspects of Academic Research" organized by the Faculty Development Centre, UGC-Human Resource Development Centre, Savitribai Phule Pune University, Pune, 12th June to 13th June 2020.
- International Webinar on "Innovations and Practices in Biological and Environmental Sciences", organized by Raghunath Girls (P.G.) College, Meerut, 28th July 2020.
- Online workshop on "Statistical Analysis using R", organized by Department of Statistics, DES Fergusson College (Autonomous), Pune, 5th May 2021 to 6th May 2021.
- One-Month Online workshop on "Preventive Healthcare: Yog for Anxiety and Stress Management during Covid Pandemic" organized by the Department of Physical Education and Internal Quality Assurance Cell (IQAC), Janki Devi Memorial College, 21st May, 2021 to 21st June, 2021.
- National webinar on "Conservation of Nature-A Way of Life", organized by Department of Botany, DCT's Dhempe College of Art's and Science, Miramar, Goa, 28th July 2021.
- National webinar on "Recent Advances in Botany", organized by Department of Botany, Vivekanand Arts, Sardar Dalipsingh Commerce

	 & Science College, Aurangabad, 31th August, 2021. Online Training Program on "Intellectual Property Awareness" organized by Intellectual Property Office, India, 14th Aug. 2022.
Event Organized/Conference / Seminar/ Workshops coordinated	 Organized one day Seminar in "Advances in Plant Biotechnology" at Fergusson College, Pune, 22nd Aug. 2016 Organized "5th Bhartiya Vigyan Sammelan and Expo" at Fergusson College, Pune, 11th to 14th May 2017 Organized National Webinar on "Trends in Algal Research" at the Department of Botany, Fergusson College (Autonomous), Pune on 10 March 2022. Organized one day workshop on "Research Publication and It's ethics" at the Department of Botany, Fergusson College (Autonomous), Pune on 29 April 2022
Additional Skills/Activities	 Faculty Development Programme Orientation Programme organized by Faculty Development Centre, UGC-Human Resource Development Centre, Savitribai Phule Pune University from 31/03/2008 to 27/04/2008. Refresher Course in Environmental Science organized by Faculty Development Centre, UGC-Human Resource Savitribai Phule Pune University from 01/03/2013 to 21/03/2013 Short Term course (FDP) on Gender Sensitization organized by Krantijoyti Savitribai Women's Studies Center, Savitribai

- Phule Pune University from 17/7/2017 to 23/07/2017.
- One week online Pedagogical Training for Teachers on "Tools for Online Teaching Learning and Evaluation" organized by School of Mathematical Sciences, Swami Ramanand Teerth Marathwada University, Nanded, 1st July to 6th July 2020

Guest Speaker

 Delivered lecture on "Techniques in Plant Tissue Culture" at Art's, Commerce and Science College, Sonai, Ahmednagar on 31st March 2021 as part of Special Lecture Series under DBT Star College Scheme.

College Committee

- Member of Botany Association (2006 onwards)
- Departmental S.Y.B.Sc. Practical In charge (2008 onwards)
- S.Y.B.Sc. Admission Committee Member (2009 onwards)
- Social Outreach Committee- Member (2010-2011)
- Industry-Institute Interaction Cell- Member (2010-2013)
- Pune Intercollege Consortium (PICC)- Member (2011-2014)
- Placement Committee- Member (2014-2015)
- Examination Co-ordination Committee-Member (2014-2015)
- Savitribai Phule Pune University Panel on S.Y.B.Sc Botany Paper Setting and Centralized Assessment Programme (2016 - 2018)
- Board of Studies in Botany Member (2017 onwards)

	 Mentoring Programme for students - Member (2018 onwards) Departmental Research Co-ordinator (2021 onwards)
Course content developed (e -content)	S.Y.B.Sc Botany BOT 2302 Plant Physiology and Metabolism and BOT 2402 Economic Botany and Biotechnology; F.Y.B.Sc Botany BOT 1102 Phytochemistry.