

## **CURRICULUM VITAE**

### **Dr. Preeti Agarwal**

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<b>Qualification</b>	<b>Year</b>	<b>Main Subjects</b>	<b>Board/ University</b>
<b>B.Sc. (H) Botany</b>	2007	Botany,	Ramjas College, University of Delhi
<b>M.Sc. (Botany)</b>	2009	Botany	Department of Botany, University of Delhi
<b>M.Phil</b>	2011	Plant Molecular Biology	Department of Plant Molecular Biology, South Campus, University of Delhi
<b>Ph.D</b>	2017	Plant Molecular Biology	Department of Plant Molecular Biology, South Campus, University of Delhi

### **PRESENT POSITION**

- Assistant Professor, Department of Botany, Gargi College, University of Delhi (September 2017-till date)

### **EXPERIENCE**

- Assistant Professor, Department of Botany, Miranda House, University of Delhi (July 2017- September 2017)
- Assistant Professor, Department of Botany, Dyal Singh College, University of Delhi (August 2018- September 2018)
- Reviewer of peer reviewed journal (BMC Plant Biology, BMC Genetics, BMC Genomics and Journal of Agricultural Science and Technology)
- Short term course on Bioinformatics aspects of proteomics and genomics, IIT, Kharagpur (September, 2008).
- Summer training under the supervision of Prof. S.C. Bhatla in the field of plant physiology, Department of Botany, University of Delhi (June-July, 2008).
- Special Paper on Proteomics and Genomics in of M.Sc. (F) under the supervision of Dr. Renu Deswal, Department of Botany, University of Delhi.

### **AWARDS AND HONOURS**

- **Topper** in M.Sc. Botany (First), Ramjas College, University of Delhi.
- **Topper** in M.Sc. Botany (Second year), Ramjas College, University of Delhi.
- Qualified CSIR-NET-JRF held on 20.06.2010
- Award of Appreciation for extraordinary performance in ICSE, District Talent Search Contest,

## **RESEARCH INTEREST**

- Transcription factors and their regulatory role in abiotic stress; Understanding into behavior of Invasive species and Invasion of terrestrial/ aquatic ecosystem; Ecological Restoration

## **PUBLICATIONS**

### **Research Publications**

1. **Agarwal, P.**, Baranwal, V. K., & Khurana, P. (2019). Genome-wide analysis of bZIP transcription factors in wheat and functional characterization of a TabZIP under abiotic stress. *Scientific reports*, 9(1), 4608.
2. **Agarwal, P.**, & Khurana, P. (2018). Characterization of a novel zinc finger transcription factor (TaZnF) from wheat conferring heat stress tolerance in *Arabidopsis*. *Cell Stress and Chaperones*, 23, 253-267.
3. **Agarwal, P.**, & Khurana, P. (2019). Functional characterization of HSFs from wheat in response to heat and other abiotic stress conditions. *Functional & integrative genomics*, 19, 497-513.
4. **Agarwal, P.**, & Khurana, P. (2020). TaZnF, a C3HC4 type RING zinc finger protein from *Triticum aestivum* is involved in dehydration and salinity stress. *Journal of Plant Biochemistry and Biotechnology*, 29, 395-406.
5. **Agarwal, P.**, & Khurana, P. (2019). Overexpression of TaMADS from wheat promotes flowering by upregulating expression of floral promoters and provides protection against thermal stress. *Plant Gene*, 17, 100168.
6. Chauhan, H., Khurana, N., **Agarwal, P.**, Khurana, J. P., & Khurana, P. (2013). A seed preferential heat shock transcription factor from wheat provides abiotic stress tolerance and yield enhancement in transgenic *Arabidopsis* under heat stress environment. *PLoS One*, 8(11), e79577.
7. Mutum, R. D., Balyan, S. C., Kansal, S., **Agarwal, P.**, Kumar, S., Kumar, M., & Raghuvanshi, S. (2013). Evolution of variety-specific regulatory schema for expression of osa-miR408 in indica rice varieties under drought stress. *The FEBS journal*, 280(7), 1717-1730.
8. Agrawal, H., Vashishtha, H., Debnath, I., **Agarwal, P.**, Soni, R., & Mishra, R. (2022). Public perceptions and experiences with the on-going COVID-19 immunisation programme in India: A survey based study. *Journal of Scientific Temper*, 10(3). <https://doi.org/10.56042/jst.v10i3.57765>
9. Mendiratta, A., Mendiratta, S., Sharma, A., **Agarwal, P.**, Mishra, R., Soni, R., (2023). Myths and Misinformation on Social Media: Insights int. *Journal of Scientific Research*, 67(2).

### **Review Paper**

10. **Agarwal, P.**, Soni, R., Kaur, P., Madan, A., Mishra, R., Pandey, J., ... & Singh, G. (2022). Cyanobacteria as a promising alternative for sustainable environment: Synthesis of biofuel and biodegradable plastics. *Frontiers in Microbiology*, 13, 939347.
11. Sinha, D., Datta, S., Mishra, R., **Agarwal, P.**, Kumari, T., Adeyemi, S. B., Kumar Maurya, A., Ganguly, S., Atique, U., Seal, S., Kumari Gupta, L., Chowdhury, S., & Chen, J. T. (2023). Negative impacts of arsenic on plants and mitigation strategies. *Plants*, 12(9). <https://doi.org/10.3390/plants12091815>
12. Soni, R., Gupta, R., **Agarwal, P.**, & Mishra, R. (2022). Organic farming: A sustainable agricultural practice. *Vantage Journal of Thematic Analysis*, 3(1), 21-44.

## **BOOK CHAPTERS**

13. Mishra, R., **Agarwal, P.**, & Mohanty, A. (2023). Applications of Genome Editing Techniques for the Improvement of Medicinal Plants. In: Swamy, M.K., Kumar, A. (Eds) *Phytochemical*

- Genomics, pp. 545-569). Springer, Singapore. ISBN: 978-981-19-5778-9. [https://doi.org/10.1007/978-981-19-5779-6\\_22](https://doi.org/10.1007/978-981-19-5779-6_22).
14. Mishra, R., **Agarwal, P.**, Soni, R., G. Singh (2023). Abiotic stress response of a tropical plant: Sugarcane (*Saccharum* species). In: Tripathi, S., Bhadouria, R., Srivastava, P., Singh, R., & Sanayaima Devi, R. (Eds.). *Ecophysiology of Tropical Plants: Recent Trends and Future Perspectives* (1st ed.) CRC Press. ISBN: 9781003335054. <https://doi.org/10.1201/9781003335054>
  15. Mittal, M., **Agarwal, P.**, Mohanty, A., & Mishra, R. (2022). Potential Immunity Boosting Plant Candidates Effective against SARS-CoV-2. In: A. Sharma, G. Malik & S. Kumar, (Eds) *Medicinal Plants: Ethnomedicine, Pharmacognosy and Therapeutic Values* (pp. 43) ANU BOOKS ISBN: 978-93-90879-31-1
  16. Mishra, R., Soni, R., **Agarwal, P.** & Mohanty, A. (2022). Utility of Probiotics in Aquaculture. In: M. Singh, G. P. Singh & S. Tyagi, (Eds.) *Microbial Products*, (pp149). CRC press. ISBN: 9781003306931. <https://doi.org/10.1201/9781003306931>
  17. Kaur, P., **Agarwal, P.**, Zabin, D., Islam, F., Das, A., and Singh, G. (2022) Cyanobacteria as a promising bio resource for application in sustainable agriculture, medicine and green technology (2022). In: Sinha RP (Eds.), *Cyanobacteria: Life History, Ecology and Impact on Humans*, Nova Science publisher. ISBN: 979-8-88697-169-9. <https://doi.org/10.52305/STKS9486>
  18. **Agarwal, P.**, Mishra, R., Chugh, S., & Geeta. (2021). Plant Nutraceuticals: An Emerging Approach for Better Health Management. In D. Sinha (Ed.), *Handbook of Agriculture and Plant Sciences*, pp 92-117, ABS publishers, ISBN 978-93-91002-25-1.
  19. Chugh, S., Geeta, **Agarwal, P.**, & Mishra, R. (2021). Common Indian Medicinal Plants with Antidiabetic Potential. In: D. Sinha (Ed.), *Handbook of Agriculture and Plant Sciences*, pp258-283, ABS publishers, ISBN 978-93-91002-25-1.
  20. Mallik, G., Mishra, R., Prakash, G., & **Agarwal, P.** (2021). Genomics, Physiology And Molecular Breeding Approaches For Improving Crop Productivity Under Salt Stress: Progress And Prospects. In (P. K. Srivastava, J. Kumar, & S. M. Prasad, Eds.) *Salt Stress Responses in Plants: Perception, Signaling, Omics and Tolerance Mechanisms*, pp179, Nova Science Publishers. ISBN: 978-1-53619-889-8.

## **RESEARCH GUIDANCE**

### **Dissertations/ Projects**

- **2021:** Immunomodulatory Plants and Their Possible Role in the Pandemic of 2020 (**Published**)  
Candidate: Meena Mittal, M.Sc. Botany, C.C.S. University, Meerut, U.P
- **2021-22:** Public perceptions and experiences with the ongoing COVID-19 immunisation programme in India: A survey-based study (**Published**)  
Candidate: Harshita Agrawal, Himanshi, Ishita Debnath
- **2022:** Myths and Misinformation about COVID-19 on Social Media: Insights into Individual Belief (**Published**)  
Candidate: Avi Mendiratta, Subhi Mendiratta (Gargi College)
- **2019-20:** Genome wide analysis of ARF Transcription Factor in *Triticum aestivum*. (Submitted)  
Candidate: Farheen Islam, Ksh. Gayatri Devi, Aadrita Das (B.Sc. (Hons.) Botany 3<sup>rd</sup> year, year, Gargi College) (Submitted)
- **2020-21:** Genome wide analysis of EIL Transcription Factor in *Triticum aestivum* and *Brachypodium distachyon*.  
Candidate: Roohani, Aditi, Aarzo (B.Sc. (Hons.) Botany 3<sup>rd</sup> year, Gargi College)
- **2020-21:** Use of biological tools to analyze and interpret biological data. (Submitted)

Candidate: Muskaan Veer, Sakshi Sharma (B.Sc. (Hons.) Botany 3<sup>rd</sup> year, Gargi College)

### **Reviewed Research Articles**

- Reviewed 27 research papers from various peer reviewed journals (BMC Plant Biology/ BMC Genetics/ BMC Genomics/ Plant Physiology and Biochemistry/ Journal of Agricultural Science and Technology, 2018-2023)

### **PRESENTATIONS IN CONFERENCES**

#### **Paper Presentation**

1. Targeting Covid-19 with medicinal plant based compounds. National conference on Realms of plant diversity: explorations with novel perspective. Organized by Maitreyi College, University of Delhi on August 24, 2021.
2. *In-silico* analysis of ARF transcription factors, A key regulator of auxin signaling pathway in wheat. National conference on Realms of plant diversity: explorations with novel perspective. Organized by Maitreyi College, University of Delhi on August 24, 2021. **(Received Second Prize)**
3. *In-silico* analysis of ARF transcription factors. Ist International Conference (Online) on Recent Approaches in Plant Sciences, RAPS-2022 organized by Department of Botany University of Education, Lahore, Pakistan on 30 March, 2022
4. EIL transcription factor, A key regulator of ethylene response signaling pathway. Ist International Conference (Online) on Recent Approaches in Plant Sciences , RAPS-2022, organized by Department of Botany University of Education, Lahore, Pakistan on 30 March, 2022

#### **Poster Presentation**

1. Agrawal, H., **Agarwal, P.**, Mishra, R., & Soni, R. Polyhydroxyalkanoates: A substitute for the conventional petro-based plastics. An International Conference on Genetics and Genomics Technologies for Crop Improvement: GGTCI-2021 August 1st to 3rd, 2021 Organized by Department of Botany, Hansraj College, University of Delhi in association with International Wheat and Maize Improvement Centre (CIMMYT), Mexico.
2. Himanshi., Soni, R., **Agarwal, P\***. Genome editing techniques: applications, advantages and disadvantages”. \* at An International Conference on Genetics and Genomics Technologies for Crop Improvement: : GGTCI-2021 August 1st to 3rd, 2021 Organized by Department of Botany, Hansraj College, University of Delhi in association with International Wheat and Maize Improvement Centre (CIMMYT), Mexico
3. **Agarwal, P.**, Khurana, P., (2015). Characterization of a Novel Zinc Finger Transcription Factor (TaZnF) from Wheat Conferring Heat Stress Tolerance in Arabidopsis”. 3rd International Plant Physiology Congress on Challenges and Strategies in Plant Biology Research, held at New Delhi, India.

#### **Contributions as resource person**

1. Resource person in the Lecture cum Demonstration Intercollege Workshop for lab staff on “Laboratory Methods and Techniques” on 10.12.2019, held at Department of Botany, Gargi College, University of Delhi

2. Resource person in Computer workshop on “Basic Skills in Computer Applications” held on June 7th and 8th, 2018 at Department of Botany, Gargi College, University of Delhi.

### **ADMINISTRATIVE EXPERIENCE**

1. Member of NIRF committee, 2023-2024
2. Member of Eco Club 2017-2018; 2019-23
3. Member of Library committee, 2022-23
4. Member of Zenith Life Science, 2022-23
5. Member of Garden committee, 2022-23
6. Compilation of Golden book committee (as editor), 2018
7. Staff advisory of GCBS (Gargi College Botanical Society), 2020-22
8. Departmental Admission Committee, 2022
9. Student mentoring, 2021-2022, 2022-2023, 2023-2024
10. Member in departmental Committee for compilation of NAAC and AQAR report (2020-2023)

### **ACADEMICS-ORIENTED CONTRIBUTIONS (Gargi College)**

1. Organising member of Inter-college Skill Enrichment Course on “Research Methodology for Undergraduate Studies” under the aegis of RDC and IQAC, Gargi College, University of Delhi.
2. Organising member of Training series on Bio-composting Methods, 2023
3. Organising member of Alumni lecture series (2023-24)
4. Organising member of Alumni lecture series 2021-22
5. Organising member for Inter-college Add on Course on Advances on Plant Sciences, 2022-23
6. Organising member for Management counselling invite event: B- Field Insider 2023
7. Organising member for Alumni Interaction session with B.Sc. (H) Botany, batch 2021-22, 2023
8. Organising member for Virtual Alumni meet 2021-22
9. Organising member for one day webinar on Floral Gardening Skills organized by Garden Committee and department of botany , Gargi College, University of Delhi, New Delhi, 19 July 2021
10. Organising member of National Virtual Workshop on “Create Your Own Garden” organized by Garden Committee, Gargi College, University of Delhi, New Delhi from 5 to 7th November, 2020.
11. Convener/Organizer for One Day National Webinar on “Virtual Classes Tools: Google Classroom, Google Meet and YouTube” organized by botany department Gargi College, 11th May, 2020.
12. Conducted various lectures and competitions as member of GCBS 2020-2022.

### **SELF-DEVELOPMENT**

#### **Faculty Development Programme (Participated)**

1. Participated in the FDP on “Biotechnology for 21st Century” organized by Marian Star Centre PG and Research Department of Botany St. Mary’s College (Autonomous), Thoothukudi, Tamil Nadu, 19- 24.07.2021
2. One week National Level Faculty Development Programme on “Transformation in Indian Education through New Education Policy- Challenges and Opportunities” organized by Government First Grade College for Women, Balmatta, Mangaluru in association with St Aloysius College (Autonomous), Mangaluru from 05-11.07.2021

3. Three days Faculty Development Programme “Digital Tools For Active Teaching, Evaluation and Research” organized by the Department of Chemistry, Shri GVG Vishlakshi College for Women from 28- 30.06.2021
4. Participated and successfully completed the RDP 2021 - Five Days Research Development Programme For Faculty in Recent Trends organized by SRM Institute of Science and Technology Ramapuram Campus from 09-13.08.2021
5. Participated in the online FDP on “Research Proposal to Patenting - A Road Map” jointly organized by Internal Quality Assurance Cell [IQAC] & PG and Research Department of Biochemistry, Srimad Andavan Arts and Science College (Autonomous), Tiruchirappalli - 620005, held from 25-27th August 2021.
6. Participated in the 5 days national level virtual faculty FDP on Fundamentals on Research Article Publication organized by Tolani Institute of Commerce Adipur –Kachchh 12-16.07.21.
7. Participated in the national level 5-day FDP on Recent Technological Advancement in life Sciences organized by Bhavan’s Vivekanand College on 15-19.11.21
8. Participated in one week online FDP on Learning through virtual labs for technical Institutions organized by Institute of Engineering and Technology, Surathkal, 18-22.10.21
9. Participated International Faculty Development programme on ‘Biological and Industrial Application’ organized by PG & Research Department of Microbiology, Idhaya college for women, Kumbakonam. 02.08.20-06.08.20
10. One Week Online Faculty Development Programme on “Research Methodology: Tools & Techniques” under Pandit Madan Mohan Malviya National Mission on Teachers and Training Scheme of MHRD, Govt. of India held from 5th-11th June, 2020 at ARSD College, University of Delhi.
11. Participated in Faculty Development Programme “Innovation in Scientific Research Methods” held from 14-18 October 2020 under ageis of DBT star college scheme 2019-2020 by Kirori Mal College.

#### **Workshop Programme (Attended)**

1. Online workshop on CRISPR mediated plant genome organized by Shivaji College, the global plant council; ICAR National Rice Research, Cuttack; SGT University Gurugram, 27 September -1 October 2021
2. Two days National Virtual Hands-On Workshop on “Tools Used in Biostatistics Research and Teaching”, organized by Department of Botany, Ramjas college, University of Delhi, 13-14 August, 2021.
3. Two days Workshop on "Designing and Development of e-Resources for Teaching and Learning - Part II" organized by Department of Computer Science and Department of Chemistry Rajdhani College, University of Delhi, 23-24 July, 2021
4. One Week Online Workshop on "E content Development" organized by Department of Humanities, at Bharat Institute of Engineering and Technology (BIET), Hyderabad, 24th February, 2021 - 1st March 2021
5. Seven Days National workshop on ‘NAAC: Seven Assessment Criteria for Accreditation’ organized by Govt. Post Graduate College, Bilaspur, Rampur (UP), 2-8 August, 2020.
6. Online 5 days National Workshop on Research Methodology", Amarkantak MP from 26.06.20-30.06.2020
7. Workshop on “Recent Trends In Plant Systematics and Future Prospects” organised by Department of Botany, Dyal Singh College, University of Delhi, March 12, 2019
8. Workshop on “Multidisciplinary National Conference on “Emerging Trends in Tertiary Education: Assessing Challenges and Possibilities, 29- 30 march 2019.

#### **Conference/Webinar/ Seminar/ Training Program (National and International) attended**

1. Two-Day International Multidimensional Conference on "Revisiting Wellbeing: Perspectives, Challenges, and the Road Ahead", under the aegis of DU Centenary Celebration, February 1-2, 2023.
2. IPR awareness/training program under the special mission called "National Intellectual Property Awareness Mission (NIPAM)" at Maitreyi College University of Delhi, 13 Jan 2023.
3. Webinar on "The Nomenclatural Code And its Relevance to Fungi" organized by Department of Botany, Sri Aurobindo College, 4 May 2020.
4. One Day National Webinar titled "Open Educational Resources" organized by Department of Chemistry, Gargi College, May 21 2020.
5. Attended National Webinar on "Entrepreneurship Aspects on Biodiversity Conservation and Indigenous Healing Practices of Northeast India" organized by IBSD Centre, Kalindi College, June 2, 2020.
6. Webinar on "Biodiversity and Man" organized by the Department of Botany, Dyal Singh College, University of Delhi, in collaboration with Society for Ecological Research and Natural Resources Management (SERNRM), June 5, 2020.
7. Two Day Webinar on "Plant Biology: A journey From Earth To Space" organized by the Department of Botany, Ramjas College, University of Delhi, Delhi, India on 22 – 23 May 2020.
8. Webinar on Biodiversity and public health, by Prof. C.R Babu, FANSC, Professor Emeritus, BY eco club, Shivaji College, 19 May 2020.
9. International webinar on Biodiversity and Environmental Health (IWBEH 2020) by Department of Environmental Studies. Shivaji College (University of Delhi), 20 May, 2020.
10. Two day International webinar jointly organized by Department of Chemistry & Biomedical Science of BCAS on "Prevalent crisis triggered by the covid19 pandemic and its appraisal" 18-19th May 2020.
11. National webinar on "Ecological Revival during Pandemic" by Department of Chemistry of BCAS, May 2020.
12. National webinar on 'Economic crisis and its readdressal during pandemic organized by Department of Chemistry of BCAS, 15<sup>th</sup> May 2020.
13. Webinar on topic "E- content: Design and Delivery" by ARSD College, Dhaula Kuan, 15 May 2020.
14. National Webinar on "Entrepreneurship Aspects on Biodiversity Conservation and Indigenous Healing Practices of Northeast India" organized by IBSD Centre, Kalindi College, June 2 2020.
15. International webinar on Biodiversity and Environmental Health (IWBEH 2020) Department of Environmental Studies. Shivaji College (University of Delhi), 20 May 2020.
16. Two day International webinar jointly organized by Department of Chemistry & Biomedical Science of BCAS on "Prevalent crisis triggered by the covid19 pandemic and its appraisal". 18-19 May 2020.
17. International Symposium on topic "Role of Plants as Medicine and Immunity Booster with Special Reference to COVID-19 Pandemic" by Department of Botany. Sri Guru Tegh Bahadur Khalsa College Jabalpur, 26-27 May 2020
18. International Webinar on "Environment Gender and Climate Change", organized by the Department of Botany, Shivaji College, University of Delhi, under the aegis of DBT - Star College Scheme, July 28 2020
19. International Webinar on "Recent Trends in Systematics Biology" by Government Post Graduate College Nagnath-Pokhari (Chamoli), Dept. of Higher Education, Uttarakhand, 28 July 2020
20. National Webinar on 'Covid-19: Herbs and Nutraceuticals for Strengthening Immunity' by Society of Pharmaceutical Sciences and Research (SPSR), 23 July 2020.
21. International Webinar on "Recent Perspectives in Biology" by the Department of Zoology, Sri GVG Visalakshi College for Women (Autonomous), Udumalpe. 15-17 June 2020.

22. National Webinar on "Herbal Excipients in Finished Pharmaceutical Products - A New Venture" by Bharati Vidyapeeth's College of Pharmacy, Navi Mumbai in collaboration with NATUCARE INDIA, Mumbai, June 21 2020.
23. Webinar on Biodiversity and Conservation (NWBC 2020) by the Department of Botany, Daulat Ram College, University of Delhi, 8 June 2020.
24. Webinar on 'IPR: Converting Intellect into Money' organized by IQAC and Department of Commerce, D. B. J. College, Chiplun, 27th June 2020.
25. National Webinar on antiviral and immunostimulant agents from medicinal plants organized by IQAC, Dept. of Botany, Raja Lakhmagouda, 22 June 2020.
26. National webinar on 'Legume Diversity in India' organized by Society for Ecological Research and Natural Resources Management (SERNRM), June 30 2020.
27. Online-seminar on Genomic assisted breeding for chickpea improvement Organized by Bioingene, 1 July 2020.
28. Webinar on ' Symbiosis: When living together is a win- win' organized by the International Symbiosis Society through zoom application. International Symbiosis Society, July 30 2020.
29. Three day National Seminar, by Commission of Scientific and Technical Terminology (CSTT), MHRD, Govt. of India entitled "Use of scientific & technical terminologies in sustainable environment development, its challenges, computational analysis and opportunities". Gargi College, University of Delhi, 14-16 March 2019.
30. Attended NAAC sponsored national seminar on "Mentoring the Teacher-Mentor: Capacity building programme organized by internal quality assurance cell (IQAC) of Gargi college, on 19-20 January, 2018.
31. Attended the 2<sup>nd</sup> Task Force meet under star college scheme, 8<sup>th</sup> and 9<sup>th</sup> may, 2018, at Gargi College, New Delhi.

### **OTHER ACTIVITIES**

#### **Field Survey and Trips organized for students**

1. Industrial visit to Yakult Dannone, Sonipat, Haryana (For industrial microbiology paper, Gargi College 2019) Apr 15, 2019 at 11:00 AM. III year Botany (Honours) for the paper on Industrial and Environmental Microbiology.
2. Excursion to Manali 2017