

**Dr. Akanksha Madan (Ph.D, University of Delhi)**  
Assistant Professor (Adhoc), Department of Botany (Jan'2020-present)

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#### **Education:**

- Ph.D. (Botany: Plant Reproductive Biology), Department of Botany, University of Delhi (2017)
- M.Sc. Botany, Department of Botany, University of Delhi (2010) (**University Rank 2, Academic Excellence Awards for 2 consecutive years**)
- B.Ed. Life Sciences, Central Institute of Education, University of Delhi (2008)
- B.Sc. (Hons.) Botany, S.G.T.B.Khalsa College, University of Delhi (2007) (**College Rank 3**)

#### **Research Interests & Specialization:**

Plant reproduction with special reference to floral rewards (nectar and pollen grains) and signals (flower morphometrics viz. shape, size, floral color and odor); Floral visitor (forager, robber, and pollinator) behavior and plant reproductive success; and Ecological aspects including macro- and floral micro-environment related to plant reproduction & their overall impact on plant success under climate change scenario.

#### **Selected Publications:**

**Book Chapter** (accepted): **Madan, A.**, Kumari, S., Kumar, S. (2023) Floral Nectar Microbiome: An Untapped Aspect and its Overall Impact on Plants in Changing Global Scenarios. In: Rakhi Chakraborty, Piyush Mathur, Swarnendu Roy (eds.) Food Production, Diversity, and Safety under Climate Change. SPRINGER-ASTI

- **Scientific Review:** Singh, G., Agarwal, P., Soni, R., Kaur, P., **Madan, A.**, Mishra, R., Pandey, J. and Singh, S. (2022) Cyanobacteria as a promising alternative for sustainable environment: Synthesis of biofuel and biodegradable plastics. *Frontiers in Microbiology*, p.2412.
- **Book Chapter:** Malik, G., Chugh, S., **Madan, A.** (2022). The Potential of Plant Growth-Promoting Rhizobacteria (PGPR) as Biological Tools in Enhancing Agricultural Sustainability. In: Sayyed, R., Singh, A., Ilyas, N. (eds) Antifungal Metabolites of Rhizobacteria for Sustainable Agriculture. *Fungal Biology*. Springer, Cham. [https://doi.org/10.1007/978-3-031-04805-0\\_14](https://doi.org/10.1007/978-3-031-04805-0_14)
- **Book Chapter:** **Akanksha Madan** and Sarita Kumari (2018) 'Impact of climate change on plant diseases', Introduction to challenges and strategies to improve crop productivity in changing environment, *Enriched Publications*, 273-282.
- **Short Research Communication:** **Akanksha Madan** and P.L. Uniyal (2016) 'Phenological observations on *Cascabela thevetia* (L.) Lippold (Apocynaceae) in Delhi' *International Journal of Plant Reproductive Biology*, 8 (2): 218.

- **Scientific Review:** Julie Thakur, **Akanksha Madan**, Mayank D. Dwivedi and Prem L. Uniyal (2015) 'What drives orchids toward heteromycotrophy?'. The Journal of Orchid Society of India, 29 (1-2): 23-30.
- **Scientific Review:** **Akanksha Madan**, Julie Thakur and P.L. Uniyal (2015) 'Evolution and Contribution of MADS-BOX genes in Relation to Floral Diversity in Orchids'. The Journal of Orchid Society of India, 29(1-2): 55-60.
- **Scientific Review:** **Akanksha Madan**, P.L. Uniyal and A.K. Bhatnagar (2013) 'Sustenance of global orchid diversity requires understanding and simultaneous conservation of pollinators'. The Journal of Orchid Society of India, 27(1-2): 87-107.
- Formulation of the **chapter on 'Structural Organisation in Plants'** for **CBSEi Portal** in Content Validation, Scope Document: Learning Objectives, Extensions, Cross-curricular links and Subject Matrix, July'2012
- **Field Report:** Monika Koul, Shreyasee Biswas and **Akanksha Madan** (2011) 'Field Trips and Excursions: Role in Science Education'. The Botanica, 59-61: 112-117.

### **Teaching Experience:**

July'2017-Nov'2019: Guest Faculty, University of Delhi

Jan'2020-present: Assistant Professor (Adhoc), Gargi College, University of Delhi

### **Courses Taught:**

B.Sc (Hons.) Botany, B.Sc (Prog.) Life Sciences, B.El.Ed (II & III yr LO), and AECC

### **Subjects Taught:**

Reproductive Biology of Angiosperms, Mycology and Plant Pathology, Plant Biodiversity, Plant Anatomy & Embryology, LO: Biology, Environmental Studies

### **Mentoring:**

- Pathfinder Project (2020-21): Fermented Rice Water: An Anti-Ageing Elixir (2 Mentees)
- Mentor, In-House Summer Internship Program (2023), Gargi College Media Cell (2 Interns)

### **Additional Professional/Administrative Roles:**

- Member, Gargi College Media Cell (Feb'2020-present)
- Member, Prospectus Committee (Apr'2020-present)
- Member, Website Committee (July'2023-present)
- Advisor, Taru: GCBS (2020-2022)
- Advisor, Zenith (2021-22)
- Departmental NAAC data collection & compilation team (2020-present)
- Resource Person & Co-coordinator, Add-On course of Eco-friendly agriculture (2021, 2023)
- Organizing Team member, International Conference on Wellbeing (Jan-July'2023)
- Admissions Team (2021, 2022)

**Professional Trainings & Certifications:**

- Masterclass on Advanced Excel, Google UpEducators, 09.05.2023
- ISSS020: Introduction to the Biological Cell, IISc Bangalore 20.06.2022
- Online Workshop on Plant Functional Genomics Techniques, UoH & IN-SERB, 9-10.05.2022
- ISSS009: Cell Mechanics, IISc Bangalore, 12.09.2022
- **Faculty Induction Program:** Ayurveda & Nutrition, University of Delhi, 20.10.2022
- **Faculty Development Program:** Environment, Sustainability and Climate Change, University of Delhi, 4-8, 04.2022
- Tools Used in Biostatistics Research and Teaching, University of Delhi, 13-14.08.2021
- Role of pesticides to protect public health and food supply, Eurofins Agrosience Services, 13.05.2020
- Understanding Google Classroom, University of Delhi, 13-14.05.2020
- **Faculty Development Program:** Advanced Concepts for Developing MOOCs, University of Delhi, 02-17.07.2020
- Training: Conservation Issues in India, Central Academy of State Forest Service, 19-20.07.2021
- Hands – on Training: Genomics and Metabolomics of Wild Medicinal Plants, JNTBGRI, Kerala, 16.11 - 04.12.2015
- Hands – on Training on SPSS (Statistical Package for Social Sciences), 07-08.2012

**Memberships:**

- Life Member, Delhi University Botanical Society (2016 onwards)
- Life Member, The Orchid Society of India (2015 onwards)
- Life Member, Indian Science Congress Association (2014 onwards) Membership No. L25991
- Life Member, The Society of Plant Reproductive Biologists (2014 onwards)
- Member, International Association of Sexual Plant Reproduction Research (2016-2018)