CURRICULUM VITAE
Aparajita Mohanty PhD

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Department of Botany
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Date of joining Gargi College as Assistant professor: 18th August 2006

Present Position (since Dec 2020)
Professor, Department of Botany, Gargi College, University of Delhi, INDIA

Teaching Experience
Post Graduate: 3 years (Feb 1998-July 2001 (Teaching Assistantship at University of Madrid along with research); Undergraduate Teaching: 16 years

Postdoctoral Experience
Feb 1998 –July 2001: Post Doctoral Fellow in the **European Community Multinational Project**´´ Measuring molecular differentiation of European deciduous forest for conservation and management`` Six countries (France, Spain, Germany, Scotland, Sweden, Italy) were involved in the project. I worked with the Spanish group in University of Madrid.

Doctoral Degree
1991-1997: Ph.D Botany; Department of Botany; University of Delhi; India.

MAJOR CONTRIBUTIONS TO COLLEGE

1. Establishing Bioinformatics Infrastructure Facility (DBT funded-2009-20) (open for use by all science teachers and students)
2. Establishing Molecular Biology laboratory (DST funded-2010-13)
3. Active involvement in implementation of Star College Scheme (DBT funded-2009-19) for Star College status
4. Total contribution in terms of project funding: Rs 56,30,200/-

HONORS & AWARDS

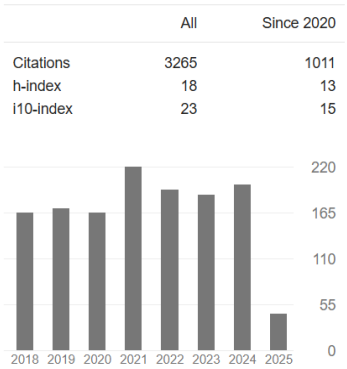
1. Best performing teacher Award (2019) given by Directorate of Higher Education, NCT, Delhi, Govt of India
2. Awarded certificate of achievement for the Top Cited Article "Natural and grafted cyclotides in cancer therapy: An insight" in the year 2020-21 in Journal of Peptide Science by Wiley publishers.

RESEARCH INTEREST

1. Chloroplast genome analysis for putative markers for population genetics study and to develop DNA barcodes for plants.
2. Analysis of plant peptides (cyclotides) in plant genomes using bioinformatics tools.
3. *In silico* studies for understanding the structure activity relationship of cyclotides.
4. Bioinformatics analysis of microbial enzymes with potential role in therapeutics, in collaboration with the group (Dr. Pooja Gulati) at Dept of microbiology, MDU, Rohtak

PUBLICATIONS (36)

Five Best publications **Google Scholar Profile**



1. Petit RJ, Aguinagalde I, Beaulieu JL, Bittkau C, Brewer S, Cheddadi R, EnnosR, Fineschi S, Grivet D, Lascoux M, **Mohanty A**, Muller- Starck G, Musch BD, Palme A, Martin JP, Rendell S, Vendramin GG (2003). Glacial Refugia: Hotspots but not melting pots of genetic diversity. **Science** 300: 1563-1565. **(IF-47.728)**
2. Shambhawi, Srivastava S, Mishra A, Mishra R **Mohanty A*** (2022) Biopesticidal potential of cyclotides:An insight. **Phytochemical Reviews** https://doi.org/10.1007/s11101-022-09825-0 **(IF-7.7)**
3. **Mohanty A*,** Martin JP, Aguinagalde I (2000). Chloroplast DNA diversity within and among populations of the allotetraploid *Prunus spinosa* L. **Theoretical Applied Genetics** 100: 1304-1310. **(IF-5.699)**
4. Tammineni, R., Gulati, P., Kumar, S., **Mohanty, A*.** (2020). An overview of acyclotides: Past, present and future. Phytochemistry**,** 170, 112215. ISSN: 0031-9422 **(IF-4.072)**
5. Grover, T., Mishra, R., Gulati, P., **Mohanty, A*.** (2021). An insight into biological activities of native cyclotides for potential applications in agriculture and pharmaceutics. **Peptides**, 170430. https://doi.org/10.1016/j.peptides.2020.170430 **(IF-3.86)**

Other Publications

6. Sharma, A., Butool, B., Sahu, P., Mishra, R., & **Mohanty, A.*** (2024). In Silico Analysis of Natural Plant-Derived Cyclotides with Antifungal Activity against Pathogenic Fungi. *Protein and Peptide Letters*, *31*(3), 247-260**. (IF 1.0)**
7. Mehta, L., Kumar, S., & **Mohanty, A.*** (2022). In silico Analysis of Native Cyclotides with Antibacterial Activity against Gram-negative Bacteria. *Applied Biochemistry and Microbiology*, *58*(6), 715-725**. (IF 1.06)**
8. Dhankhar, R., Kawatra, A., Gupta, V., **Mohanty, A**., & Gulati, P. (2022). In silico and in vitro analysis of arginine deiminase from Pseudomonas furukawaii as a potential anticancer enzyme. *3 Biotech*, *12*(9), 1-13.**(IF 2.89)**
9. Kaula BC, Mishra R, Geeta, Kumar S, **Mohanty A*** (2022) Phytoconstituents and ethnopharmacological activities of Abrus precatorius L. (Fabaceae): A review. Vegetos. https://doi.org/10.1007/s42535-022-00397-0
10. Mehta, L., Dhankhar, R., Gulati, P., Kapoor, R. K., **Mohanty, A**., Kumar, S. (2020). Natural and grafted cyclotides in cancer therapy: An insight. Journal of Peptide Science, e3246, Online ISSN:1099-1387. **(IF-1.905)**
11. Khare, N., Kaushik, M., Martin, J. P., **Mohanty, A.,** & Gulati, P. (2020). Genotypic diversity in multi-drug-resistant E. coli isolated from animal feces and Yamuna River water, India, using rep-PCR fingerprinting. Environmental Monitoring and Assessment, 192(11), 1-13. **(IF-2.513)**
12. Dhankhar R., Kawatra A., **Mohanty A**., Gulati P. (2020), Microbial enzymes used in prodrug activation for cancer therapy: Insights and future perspectives, Current Protein & Peptide Science doi.org/10.2174/1389203721666201207231932, Online ISSN 1875-5550. **(IF-3.272)**
13. Kawatra, A., Dhankhar, R., **Mohanty, A**., Gulati, P. (2020). Biomedical applications of microbial phenylalanine ammonia lyase: Current status and future prospects. Biochimie. 177: 142-152, *ISSN*: 0300-9084. **(IF-4.079)**
14. Singh S, **Mohanty A** (2018) *In silico* identification of potential drug compound against Peroxisome proliferator activated receptor-gamma by virtual screening and toxicity studies for treatment of Diabetic Nephropathy. Journal of Biomolecular Structure and Dynamics. doi.org/10.1080/07391102.2017.1334596 Electronic *ISSN*, 1538-0254.

15. Abat JK, Kumar S, **Mohanty A***(2017) Ethnomedicinal, Phytochemical and Ethnopharmacological aspects of four medicinal plants of Malvaceae used in Indian Traditional Medicines: A review. Medicines, *4*(4),75, doi:10.3390/medicines4040075 MDPI Publication Switzerland ISSN 2305-6320
16. Singha TK, Gulati P, **Mohanty A**, Khasa YP, Kapoor RK and Kumar S (2017). Efficient genetic approaches for improvement of plasmid based expression of recombinant protein in Escherichia coli: A review. Process Biochemistry 55: 17-31. **(IF-3.757)**
17. Martín MP, Felipe MG, **Mohanty A** and Martín JP (2017) Genetic diversity in relict and fragmented *Ulmus glabra* Hudson populations from Central System in Iberian Peninsula. Forests 8 (5):143, ISSN 1999-4907. **(IF-2.634)**
18. Sarin B, Martin JP and **Mohanty A*** (2015) Differences in population genetic structure of two ethnomedicinal herbs of the genus *Phyllanthus* from India:A consequence of anthropogenic intervention? Plant Systematics and Evolution 301: 667-676, **(IF-1.63)**
19. Sarin B, Martin JP, Chrungu B, **Mohanty A***(2015) Chloroplast DNA variation in wild Brassicas and their implication in breeding and population genetics studies. Scientifica. doi.org/10.1155/2015/952395
20. Sarin B, Verma N, Clemente JPM and **Mohanty A*** (2014) An overview of important ethnomedicinal herbs of Phyllanthus species: Present status and future prospects. The Scientific World Journal. Article ID 839172, doi.org/10.1155/2014/839172
21. Sarin B, Clemente JPM and **Mohanty A*** (2013) PCR–RFLP to distinguish three *Phyllanthus* sp., commonly used in herbal medicines. South African Journal of Botany. 88: 455-456 **(IF-2.315)**
22. Verma N, **Mohanty A**, Lal A (2010) Pomegranate Genetic Resources and Germplasm Conservation: A Review. Fruit, Vegetable, Cereal Science and Biotechnology. 4: 120-125
23. **Mohanty A*,** Chrungu B, Verma N, Shivanna KR (2009) Broadening the genetic base of crop brassicas by production of new intergeneric hybrid. Czech Journal of Genetics and Plant Breeding. 45: 117-122. **(IF-0.865)**
24. Verma N, Rana MK, Kumar G, **Mohanty A,** Bisht IS (2009) RAPD based assessment of genetic diversity of Perilla frutescens (L.) Britton from India . International Journal of Tropical Agriculture 27: 383-386
25. Singh AK, Verma N, Yadav SK, **Aparajita Mohanty**, Singh S, Singh S (2009) Indian Forage Genetic Resources: Perspectives and Strategies. Progressive Agriculture 9: 250-256
26. **Mohanty A*,** Chrungu B, Verma N, Shivanna KR (2007) Wide Hybridization Between *Hirschfeldia incana* L. (Lagreze Fossat) and *Brassica carinata* Braun. : Towards Development of New Genetic Resource. Journal of Plant Genetic Resources: An International Journal. 3: 208-210
27. Aguinagalde I, Hampe A, **Mohanty A,** Martin JP, Duminil J, Petit RJ (2005). Effects of life history traits and species distribution on genetic structure at maternally inherited markers in European trees and shrubs. Journal of Biogeography 32: 329-339. **(IF-4.327)**
28. **Mohanty A***, J. P. Martin, I. Aguinagalde (2003). Associations between chloroplast DNA and mitochondrial DNA haplotypes in *Prunus spinosa* (Rosaceae) populations across Europe. Annals of Botany 92(6): 749-755. **(IF-4.357)**
29. Panda S, Martin JP, Aguinagalde I, **Mohanty A** (2003). Chloroplast DNA variation in cultivated and wild *Prunus avium* L : a comparative study. Plant Breeding 122: 92-94. **(IF-1.8)**
30. **Mohanty A***, Martin JP, Aguinagalde I (2002). Population genetic analysis of chloroplast DNA in populations of *Prunus spinosa* in Europe. American Journal of Botany 89: 1223-1228. **(IF-3.884)**
31. Aguinagalde I, Rebordinos I, **Mohanty A**, Martín JP (2002). Cytoplasmic diversity in the wild shrub *Cytisus scoparius* L. (Leguminosae). Israel Journal of Plant Sciences 50: 1-9. **(IF-0.721)**
32. **Mohanty A*,** Martin JP, Aguinagalde I (2001). A population genetic analysis of chloroplast DNA in wild populations of *Prunus avium* L. in the European continent. Heredity 87: 421-427. **(IF-3.821)**

33. **Mohanty A*,** Martin JP, Aguinagalde I (2001). Chloroplast DNA study in wild populations and some cultivars of *P. avium* L. Theoretical Applied Genetics 103 : 112-117. **(IF-5.699)**
34. **Mohanty A*,** Martin JP, Aguinagalde I (2000). Chloroplast DNA diversity and distinguishing sweet cherry cultivars: A New Approach. Acta Horticulture 546: 463-469.
35. Chrungu B, Verma N, **Mohanty A,** Pradhan A, Shivanna KR (1999). Production and characterization of interspecific hybrids between *Brassica maurorum* and crop brassicas. Theoretical Applied Genetics 98: 608-613. **(IF-5.699)**
36. **Mohanty A**, Chowdhary N, Shivanna KR (1995) Effects of temperature and ageing stresses on pistil on post-pollination events in *Clarkia* and *Petunia***.** Journal of Palynology 31: 321-333.

BOOK CHAPTERS

1. 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.
2. 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
3. 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
4. Kawatra, A., Mishra, R., **Mohanty, A**., & Gulati, P. (2021). Plants as Antiviral Agents. In D. Sinha (Ed.), *Handbook of Agricultural and Plant Sciences*. pp171-186, ABS publishers, ISBN 978-93-91002-25-1.
5. Mishra, R., Grover, T., Gulati, P., & **Mohanty, A.** (2021). Rhizosphere Engineering: An Effective Approach for Sustainable Modern Agriculture. In: Phytomicrobiome Interactions and Sustainable Agriculture, Verma A, Saini JK, Hesham AL, Singh HB (eds) pp:91-117, Wiley-Blackwell Publications, ISBN-9781119644620.
6. Dhankhar, R., **Mohanty, A**., & Gulati, P. (2021). Microbial Diversity of Phyllosphere: Exploring the Unexplored. In: Phytomicrobiome Interactions and Sustainable Agriculture, Verma A, Saini JK, Hesham AL, Singh HB (eds) pp:66-90, Wiley-Blackwell Publications, ISBN-9781119644620.
7. **Mohanty A,** Verma N, Chrungu –Kaula B (2012**)** Role of Wild Relatives in Faba Bean Improvement. In: Faba Bean (*Vicia faba L*.) A Potential Leguminous Crop of India, AK Singh and BP Bhatt (eds), pp 39-42. ISBN: 978-93-5067-773-5, ICAR Research Complex for Eastern Region, Patna, Bihar, India.
8. Shaheen R, Verma N, **Mohanty A** (2012) Germplasm Evaluation in Faba Bean (*Vicia faba*L.) In: A Potential Leguminous Crop of India, **AK Singh and BP Bhatt (eds), pp63-72. ISBN: 978-93-5067-773-5**, ICAR Research Complex for Eastern Region, Patna, Bihar, India.
9. **Mohanty A**, Verma N, Chrungu-Kaula B (2011) New potential forage /fodder crops for India. In: Forages and Fodder. Singh AK, Khan MA, Subash N, Singh KM (eds), pp 45-50. ISBN:81-7035-667-9

RESEARCH PROJECTS AWARDED

2010-2013: DST FAST TRACK- Project as Principal Investigator

Project Title: Phylogenetics and population genetics of *Prunus* genetic resources in India, by analysing chloroplast DNA diversity.

Total funding: Rs 17,61,800/-

Funded by **Department of Science and Technology** under FAST TRACK scheme for young scientists

2015-16: INNOVATION PROJECT-GC305: With Dr JK Abat & Dr Supreeti Das

Project Title: DNA barcoding for grasses of Aravalli range in Delhi region and subsequent creation of database of DNA barcode sequence information: An essential study for formulating future conservation strategies
Total Funding: Rs 5,50,000/-
Funded by **University of Delhi**

2022 (Sanctioned) : BIOTECHNOLOGY RESEARCH AND DEVELOPMENT PROJECT
Project Title: Proposal for Workshop/Training in Bioinformatics
Project as Principal Investigator, Co-PI: Dr Reema Mishra
Total funding: Rs 17,49,920/-
Funded by **Department of Biotechnology**

INSTITUTIONAL GRANT AWARDED

2008 to 2020: Creation of Bioinformatics Infrastructure Facility (BIF) for biology teaching

2008-2019: **Co-PI/ Co-coordinator of BIF:** Dr Aparajita Mohanty

2019-2020: **PI/ Coordinator of BIF:** Dr Aparajita Mohanty

Total funding received: Rs 33,18,400/-

Funded by: **Department of Biotechnology**, Ministry of Science and Technology, Govt. of India

This facility is accessible to all science faculty members and students for carrying out bioinformatics research.

RESEARCH GUIDANCE

2019-20: One **Research Associate; Topic:** Analysis of diversity of cyclotides and their bioactivities
2015-17: One **Research Associate; Topic:** Virtual screening and toxicity studies of potential drug molecules against PPAR-ϒ receptor for treatment of diabetic nephropathy.
2018-2025 (as coguide): One **PhD student**

2011-2020: MSc dissertations (total 7)

2011: Title: Plant mitochondrial genome analysis for assessing it's importance in phylogenetic studies.
Candidate: Ms Vidisha Minhas, Amity University.
2013: Title: *In silico* analysis of phylogeny and pcr amplification of putative gene of rhamnosyltransferase in green plants.
Candidate: Ms Priyanka Babuta, TERI University.
2014: Title*: In silico* analysis of chloroplast genome sequences of higher plants for identification of putative DNA barcoding regions
Candidate: Ms Arpita Khurana, TERI University.
2017: Title: *In silico* analyses of sequence variations of chloroplast DNA region/s for their suitability as phylogenetic markers
Candidate: Ms Nidhi Vatsa, Jamia Milia University
2019: Title: In silico analysis and subsequent screening of cyclotides for their putative role as biopesticides
Candidate: Ms Rajitha Amity University
2020: Title: Bioinformatics analysis of cyclic miniproteins: cyclotides and knottins in Fabaceae
Candidate: Sunanda Gautam, Amity University
2020: Title: Genome-wide identification of *Asparaginyl Endopeptidases* (*Vacuolar Processing Enzymes*) genes in *Oryza sativa, Sorghum bicolor and Zea mays*
Candidate: Viola Raina, Amity University

PRESENTATIONS IN CONFERENCES

Total papers presented: 08
Total Poster presentations: 07
Latest Paper presentation (2021) : Oral presentaion titled **"Innovations in teaching methodology and student-centric implications"** in Two-day interdisciplinary national seminar on **National Education Policy: Context and Opportunities in Higher Education** organized by Faculty Development Centre, Maharshi Dayanand University, Rohtak. 20-21 February 2021.

CONTRIBUTIONS AS RESOURCE PERSON/INVITED SPEAKER (MOST RECENT)

1. **Resource person** in the workshop to review infographics developed based on Learning Outcomes in Biology at the Higher Secondary stage to be held in DESM, **NCERT** from February 21-25, 2022
2. **Resource person** in the workshop to review infographics developed based on Learning Outcomes in Biology at the Higher Secondary stage to be held in DESM, **NCERT** from March 15-17, 2022
3. **Invited speaker** on the topic "Bioinformatics and Biopesticides: Achieving Sustainable Goals in Agriculture" in the **International E-Conference** on 'Mitigating Contemporary Environmental Issues by Sustainable Approaches [ICMCESA – 2022], 22-28 Feb 2022, organized by Acharya Narendra Dev College.
4. **Invited speaker** on the topic "Is bioinformatics important for a plausible solution to climate issues" in the **short term certificate course** on "Climate Change and food security: Issues, challenges and strategies" ,organised by Bhaskaracharya College of Applied Sciences, 7th Feb 2022.

COLLABORATIONS

1. Collaboration with Departamiento Vegetal Biologia, University of Madrid, Spain
2. Nodal officer of Science Setu program (A collaboration between Gargi college-National Institute of Immunology and Dept of Biotechnology, Govt of India-2015-2018
3. Collaboration with Dept. of Microbiology, Maharshi Dayanand University, Rohtak, India

ADMINISTRATIVE EXPERIENCE

1. Deputy Superintendent: 2017
2. GB member: 2016-17
3.IQAC core member: 2016 till date
4. Proctor: 2017-19, 2022-2024 onwards
5.Pathfinder committee: 2014 till date
6. Nodal officer Science Setu program-2015-2022.
7. Staff Association secretary-2015-16
8. BIF-DBT co-coordinator-2010-2019; Co-ordinator 2019-20
9.Overall Admission convenor (Science): 2019
10. Annual report compilation:2011-2014
12.Prospectus committee:2013-14
13. Convenor of Science intercollege cultural festival "Scintillations"-2012-13

ACADEMICS-ORIENTED CONTRIBUTIONS (in Gargi College)
(2015 onwards)

1.Organising member of NAAC sponsored Mentoring workshop-2018
2.Convenor-Workshop on Basic skills in computer Application-2018
3.Delivered talk on Microsoft Word-Made Easy- 2018
4.Organizer- workshop on Analytical techniques in Biochemistry-2017

5. Organizer of DNA fingerprinting workshop under Science Setu program-2016
6. Member of DBT taskforce for evaluation of Lab. Manuals under Star college scheme-2015 held at Sri Venkateswara College

SELF-DEVELOPMENT
(2015 onwards)

1. Attended Refresher Course in Life science and biotechnology (2018).
2. Attended Faculty development program on Research Methodology" at Bhaskaracharya College of Applied Sciences, University of Delhi, 16-22 December, 2017.
3. Attended Faculty Development Program in "Research Program Management-Proposal to publication and beyond", organized by Centre for Science Education and Communication, University of Delhi on 19th July, 2016.
4. Participated in National Conference on Pharmacognosy scope of phytochemically unexplored Maedicinal plants - 12th January, 2017 organized by Zakir Husain Delhi College, University of Delhi.
5. Participated in National Seminar on "A step towards soft computing: Techniques and Applications" sponsored by UGC held on 18-19 March 2016, organized by Deen Dayal Upadhyaya College, University of Delhi.

SOCIAL RESPONSIBILITIES

1. Awarded certificate of appreciation for organizing (as Co-convenor) the International Colloquium on International Women,s Day on the topic "Breaking stereotypes -La Femme Her story" on 8th March 2021.
2. Awarded certificate of appreciation (14th Aug 2021) by Ketto (an NGO) for supporting the organization in saving lives.