




ZAKIR HUSAIN DELHI COLLEGE
(University of Delhi)

Faculty Details

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|--|---|------------------------|---|
| Title: Dr. | First Name: Atul | Last Name: Arya |  |
| Designation | Assistant Professor | | |
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| Web Page | https://orcid.org/0000-0003-3637-2220 (ORCID profile) https://scholar.google.com/citations?user=9rhuioYAAAAJ&hl=en (Google scholar profile) https://www.researchgate.net/profile/Atul-Arya-2?ev=prf_overview (ResearchGate profile) | | |
| Educational Qualifications | | | |
| Degree | Institution | Year | |
| Ph.D. (Botany) | University of Delhi | 2025 | |
| M.Phil. (Botany) | University of Delhi | 2019 | |
| M.Sc. (Botany) | University of Delhi | 2017 | |
| B.Sc. (H) Botany | University of Delhi | 2015 | |
| Career Profile | | | |
| Assistant Professor: Department of Botany, Zakir Husain Delhi College, University of Delhi. (January 18, 2024 – till date) | | | |
| Assistant Professor: Department of Botany, Ramjas College, University of Delhi. (2022– 2023) | | | |
| Administrative Assignments | | | |
| <ul style="list-style-type: none">• Member, Proctorial Board, Zakir Husain Delhi College, university of Delhi (2024- Till date)• Member, Science Festival-2024, Zakir Husain Delhi College, university of Delhi (April 4-5, 2024)• Member, Annual day-2024, Zakir Husain Delhi College, university of Delhi (May 4, 2024)• Member, discipline committee for Aadab-2024, Zakir Husain Delhi College (May 15, 2024)• Member, Placement cell, Ramjas College, university of Delhi (2022-23)• Member, Student welfare committee, Ramjas College, university of Delhi (2023)• Academic Counselor for B.Sc. (G) (October 1, to December 31, 2021) in INDRA GANDHI NATIONAL OPEN UNIVERSITY, Delhi. | | | |
| Areas of Interest / Specialization | | | |
| Medicinal Plants, Plant Physiology, Plant Metabolism | | | |

Subjects Taught

- Ecology and Evolution
- Economic Botany and Biotechnology
- Plant Diversity and Systematics
- VAC- Swachh Bharat
- Genetic and Molecular biology

Publications Profile : (Citations – 128) (Research and Review articles: 23) (Book chapters: 9)

Research and Review Articles:

1. Mansi Sharma, Priyanka Mahajan, Abdullah Saad Alsubaie, Virat Khanna, Surjeet Chahal, Abhinay Thakur, Ankush Yadav, **Atul Arya**, Amanpreet Singh, Gulab Singh, (2025). Next-Generation Nanomaterials-based Biosensors: Real-Time Biosensing Devices for Detecting Emerging Environmental Pollutants. *Materials Today Sustainability*. 101068. <https://doi.org/10.1016/j.mtsust.2024.101068..>
2. Sachin Mahawar, Suresh Kumar, **Atul Arya**, Harsha Singh,. A comprehensive review of medicinal plants of Northeast India used in urolithiasis. *Journal of Drug Research in Ayurvedic Sciences* 9(5):p 293-309. 10.4103/jdras.jdras_367_23.
3. Harsha Singh, Suresh Kumar, **Atul Arya**, (2024). Evaluation of antibacterial, antioxidant, and anti-inflammatory properties of GC/MS analysis of extracts of *Ajuga. integrifolia* Buch.-Ham. Leaves. *Scientific Reports*. 14, 16754. <https://doi.org/10.1038/s41598-024-67133-3>.
4. Atul Arya, Suresh Kumar, Dolly Kain, Vandana, Khaling Mikawlrang, (2024).Metabolite profiling, antioxidant, antibacterial, and carbohydrate hydrolyzing enzyme inhibition activities of *Drymaria cordata*. *J Herbmec Pharmacol*. 2024; 13(3): 407-419. doi: 10.34172/jhp.2024.48085.
5. **Atul Arya**, Deepak Chahar, Kavya Bhakuni, Vandana, Suresh Kumar*, Pannuru Venkatesu, (2024). Green Synthesis of Silver Nanoparticles Using *Drymaria cordata* and Their Biocompatibility with Hemoglobin: A Therapeutic Potential Approach. *ACS Applied Bio Materials*. <https://doi.org/10.1021/acsabm.3c00974>.
6. **Atul Arya**, Suresh Kumar, Harsha Singh, Dolly Kain, Ab Majeed Ahanger, (2023). Synthesis and characterization of *Drymaria cordata* mediated encapsulation of Zeolitic Imidazolate Framework-8 and their antibacterial action against drugs resistant bacteria. *Inorganic Chemistry Communications*, 157 (2023), 111394, <https://doi.org/10.1016/j.inoche.2023.111394>.
7. **Atul Arya**, Suresh Kumar, Dolly Kain, Amrita Suryavanshi, Vandana, (2023). Ethnobotanical and ethnopharmacological studies of medicinal plants used for reproductive disorders: A review. *Medicinal Plants - International Journal of Phytomedicines and Related Industries* 15(4):619-635.
8. **Atul Arya**, Suresh Kumar, Dolly Kain, Amrita Suryavanshi, Ab Majeed Ahanger,Vandana, (2023). Unfolding the Chemical composition, antioxidant and antibacterial activities of *Drymaria cordata* (Linn.) Willd. against chloramphenicol-resistant *Bacillus subtilis* and β -lactams-resistant *Pseudomonas aeruginosa*. *Vegetos* 2023:1-10. <https://doi.org/10.1007/s42535-023-00673-7>.
9. Harsha Singh, Suresh Kumar*, and **Atul Arya**, (2023).Ethno-dermatological relevance of medicinal plants from the Indian Himalayan region and its implications on cosmeceuticals: A review. *J Drug Res Ayurvedic Sci*.8:97-112.
10. Shubham Sharma, Suresh Kumar*, Dolly Kain and **Atul Arya**, (2022). Effect of Yamuna water on cultivars of *Vigna radiata* (L.) R. Wilczek and *Vigna mungo* (L.) Hepper. *Indian Journal of Environmental Protection*. 42(4): 506-512.
11. Rudra Narayan Sahoo, Suresh Kumar, Amrita Suryavanshi, Dolly Kain, **Atul Arya**, (2021). Bharti Chaudhry. Venerated and medicinal aspects of plants used in India: An ethnobotanical review. *Journal of Drug Research in Ayurvedic Sciences*. 2021;6: 128-40.
12. Amrita Suryavanshi, Suresh Kumar, Dolly Kain, **Atul Arya**, Vandana. (2022). In vitro

- antidiabetic, antioxidant activities and chemical composition of *Ajuga parviflora* Benth. Shoot. *J Herbmед Pharmacol.* 11(1): 131-139. ISSN 2345-5004.
13. Dolly Kain, Suresh Kumar*, Vandana, Amrita Suryavanshi and **Atul Arya**. (2022) FTIR and GCMS analysis of *Euphorbia hirta* L. and its in- vitro antibacterial and antioxidant activities. *Indo Global Journal of Pharmaceutical Sciences.* 2(2022):104-109. ISSN 2249-1023.
 14. Dolly Kain, Suresh Kumar, Amrita Suryavanshi, **Atul Arya**. (2022). Metabolic characterization of *Achillea millefolium* L. through ultraviolet absorption, fourier transform infrared spectroscopy, and gas chromatography–mass spectrometry analysis. *J Drug Res Ayurvedic Sci.*2022; 6:72-8.
 15. Amrita Suryavanshi, Suresh Kumar, Dolly Kain, **Atul Arya**. (2021). Chemical composition, antioxidant and enzyme inhibitory properties of *Ajuga parviflora* Benth., Biocatalysis and Agricultural Biotechnology,37,2021,102191,ISSN 1878-8181, <https://doi.org/10.1016/j.bcab.2021.102191>.
 16. Ab Majeed Ahanger, Suresh Kumar, **Atul Arya**, Amrita Suryavanshi, Dolly Kain, and Vandana. (2022). Synthesis and Encapsulation of *Ajuga parviflora* Extract with Zeolitic Imidazolate Framework-8 and Their Therapeutic Action against G+ and G– Drug-Resistant Bacteria. *ACS Omega.* 2022, 7, 2, 1671–1681 Article ASAP.DOI: 10.1021/acsomega.1c03984. ISSN. 24701343
 17. Ab Majeed Ahanger, Suresh Kumar, Dolly Kain, **Atul Arya**, and Vandana. (2021).Nanoscale zeolitic imidazolate framework–8 encapsulates crude extract of *Ajuga bracteosa* wall ex. Benth and enhanced their antibacterial efficiency. *Inorganic Chemistry Communications.*133,2021,108940, 1387-7003. ISSN 1387-7003 <https://doi.org/10.1016/j.inoche.2021.108940>.
 18. Dolly Kain, Suresh Kumar*, Vandana, Amrita Suryavanshi and **Atul Arya**, (2021). Metabolic Characterization, Antioxidant Capacity, and In-vitro Antiurolithiatic Potential of *Achillea millefolium* L. *Journal of young pharmacists.* 13 (2): 211-216. ISSN: 0975-1505 P: 0975- 1483.
 19. Dolly Kain, Suresh Kumar*, Amrita Suryavanshi and **Atul Arya**, (2021). In-vitro antiurolithiatic potential of leaves of *euphorbia hirta* l. against calcium oxalate kidney stones. *International Journal of Pharmaceutical Sciences and Research.* 12(2): 991-994. E-ISSN: 0975-8232; P-ISSN: 2320-5148.
 20. Amrita Suryavanshi, Suresh Kumar*, Dolly Kain, and **Atul Arya**, (2020). Evaluation of phytochemical and antibacterial potential of *Ajuga parviflora* Benth.. *Medicinal Plants - International Journal of Phytomedicines and Related Industries.* 12(1):144- 149. ISSN: 0975-4261.
 21. Dolly Kain, Suresh Kumar*, Amrita Suryavanshi and **Atul Arya**, (2020). Phytochemical analysis and antibacterial activities of *achillea millefolium* L. *Medicinal Plants.* 12(3): 457-462. 0975-4261.
 22. **Atul Arya**, Suresh Kumar*, Rajinder Paul, Amrita Suryavanshi, Dolly Kain, and Rudra Naryana Sahoo (2019).Ethnopharmacological survey of indigenous medicinal plants of Palampur, Himachal Pradesh in north-western Himalaya, India. *ADV TRADIT MED (ADTM).* 23:169–212. <https://doi.org/10.1007/s13596-021-00607-1>. ISSN 2662-4060.
 23. **Atul Arya**, Suresh Kumar*, Amrita Suryavanshi, and Dolly Kain, Vandana (2019). Biosynthesis of Metallic Nanoparticles from Medicinal Plants: A Review. *Journal of Nanoscience and Technology.* 5 (5): 827-831. ISSN 2455-0191.

Book Chapters:

1. Dolly Kain, **Atul Arya**, Biochemical and Molecular Aspects of Phytoremediation toward Mitigation of Heavy Metals. Challenges and Sustainable Solutions in Bioremediation. 2025. CRC Press.Pages20.eBook ISBN9781003407317.

2. Harsha Singh, Suresh Kumar, **Atul Arya**, Challenges in Bioremediation: Overcoming Environmental and Technological Barriers. Challenges and Sustainable Solutions in Bioremediation. 2025. CRC Press. Pages 20. eBook ISBN 9781003407317.
3. Rudra Narayan Sahoo, Sachin Mahawar, **Atul Arya**. Antimalarial Response, Traditional and Other Potential Uses of Croton Genera. Antimalarial Medicinal Plants Pages 188-213. Publisher CRC Press.
4. Harsha Singh, **Atul Arya**, Suresh Kumar. Sustainable Techniques for the Harvest and Conservation of Antimalarial Plant Species. 2024. Antimalarial Medicinal Plants Pages 77-89. Publisher CRC Press.
5. Dolly Kain, **Atul Arya**, Sahil Mehta. Antidiabetic Potential of *Ajuga* sp. Antidiabetic Medicinal Plants and Herbal Treatments. 1st Edition, 2023, CRC Press, Pages 13, eBook ISBN 9781003345947.
6. Vandana, Suresh Kumar*, **Atul Arya** and Dolly Kain. Analytical techniques for identification and characterization of bioactive compounds extracted from medicinal plants. In Medicinal Plants: Ethnomedicine, pharmacognosy and therapeutic values published by Anu Books, India. 2022. ISBN: 978-93-90879-31-1, pp: 242- 258.
7. **Atul Arya**, Suresh Kumar. 2022. Ethnopharmacology and Biodiversity of Herbal Medicine. Medicinal Plants: Ethnomedicine, Pharmacognosy and Therapeutic Values. published by Anu Books, India. 2022. ISBN: 978-93-90879-31-1.
8. Kumar A., Choudhary A., Kaur H., **Arya A.**, Baljinder Singh, Sahil Mehta Traditional Himalayan Plants: Nature's Gift for Maintaining a Strong Immune System.. Traditional Herbal Therapy for the Human Immune System. 2021. CRC Press. Pages 34. eBook ISBN 9781003137955.
9. **Arya, A.**, Kumar*, S., (2019). Traditionally Used Medicinal Plants for Cancer Therapy. Ethnobotany Vol: 2. ISBN-10: 819338055X. Kojo Press. New Delhi.

Other Publications:

Contributed the review article (eBooks) “जैवविविधता, मानव कल्याण और सतत विकास” of the **Vigyan Garima Sindhu - CSTT - Ministry of Education (2020) (115:68-71)**, Government of India.

Conference Presentations/poster:

- Presented poster in International Conferences on Crossroads of chemistry, biology and atmospheric environment: A modern Prospective in Department of chemistry, University of Delhi, from 26-28 February, 2024.
- Presented poster in Annual National Conference on Advances in Plant Biology (APB 2024) in Hansraj College University of Delhi on 10 February, 2024.
- Presented paper (poster) on the topic “**Chemical composition, antioxidant and antidiabetic activities of *Drymaria cordata* (Linn.) Willd.**” In one day national conference on “Science innovation in human wellbeing” at Department of chemistry, University of Delhi, Delhi-110007, India, 17th March, 2023.
- Presented Paper on the topic of **Chemical composition, antioxidant and antibacterial activities of *Drymaria cordata* (Linn.) Willd.** Two Days International e-Conference on Recent Advancements in Chemical Sciences: Health, Environment and Society (ICRACS - 2022) 8th - 9th April 2022.
- Presented paper (poster) on the topic “**Green synthesis of silver nanoparticles using *Drymaria cordata* (Linn.) Willd ex schult and their therapeutic studies**” in two days conference on “Recent Advances in Nano Medical Sciences (RANMS 2022)” at Paintal Memorial Golden Jubilee Auditorium, University of Delhi, Delhi-110007, India, 22nd - 23rd June, 2022.
- Oral presentation on the topic of ‘**Ethnobotanical survey of medicinal plants of Palampur, H.P.**’ in The 1st International e-Conference -(iCiAsT-2020) on “Innovative Approaches in Agriculture, Applied Sciences and Technologies” under the theme of

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| <p>“Importance of Biodiversity and Bioresources in the Crisis of Post COVID Era” December 14-15, 2020 Faculty of Science, Kasetsart University, THAILAND.</p> <ul style="list-style-type: none"> • Oral presentation on the topic of “Biochemical investigation and antibacterial potential of <i>Drymaria cordata</i> (linn.) Willd ex schult extracts and nanoparticles” in Recent Trends in Drug Discovery and development, held on 8-9th October 2021, Maitreri College, University of Delhi, Delhi, India. • Oral presentation on the topic of ‘Medicinal plants commonly used by Traditional Healers in Palampur, Himachal Pardesh’ in National seminar on Recent Trends of Research in Medicinal Botany held on 4-5 October, 2019. |
| <p>Conference Organization/ Presentations (in the last five years)</p> <ul style="list-style-type: none"> • Organising committee member, A Hands on Training on Aeroponics, Hydroponics , Landscaping and Vertical Gardening, organized by Department of Botany, Zakir Husain Delhi College, University of Delhi on 08-09 November, 2024. • Organising committee member, International conference cum workshop on Making Sense Of Omics: Proteomics, Transcriptomics, And Molecular Drug Design, organized by Department of Botany, Zakir Husain Delhi College , University of Delhi on April 23-24, 2024. • Organizing Committee Member, 1st Alumni Meet, organized by Department of Botany, Ramjas College, University of Delhi on June 25, 2022. • Organizing Committee Member, seminar on Yoga and Meditation for humanity, ”, organized by Department of Botany, Ramjas College, University of Delhi on June 21, 2022. • Organizing Committee Member, national webinar on “Nutraceuticals for Human Wellness: Value added product from plant bioactives”, organized by Department of Botany, Ramjas College, University of Delhi on April 20, 2022. • Organizing Committee Member, national webinar on “Feeding the 10 billion: A genomics prospective”, organized by Department of Botany, Ramjas College, University of Delhi on April 11, 2022. |
| <p>Awards and Distinctions</p> <ul style="list-style-type: none"> • Patent has been granted on 22 January 2025 for an invention entitled “Antibacterial compounds isolated from plant <i>Achillea millefolium</i>”. • Certificate of reviewing by Journal of Ethnopharmacology (Since February 2021), Food discovery • UGC JRF qualified (Rank 20) December 2017 in Life Sciences • CSIR JRF qualified (Rank 56) June 2018 in Life Sciences • CSIR Net qualified (Rank 28) June 2017 in Life Sciences |
| <p>Association With Professional Bodies</p> <ul style="list-style-type: none"> • Member at Indian Science congress • DUBS |
| <p>Other activities</p> <ul style="list-style-type: none"> • Interdisciplinary Refresher Course in Life Sciences entitled Recent Advances in Applied Biology conducted from August 16th to August 29th, 2024. • 4-Week Faculty Induction/Orientation Programme for “Faculty in Universities/Colleges/Institutes of Higher Education” from 27 March – 23 April, 2024. • NEP Orientation and sensitization programme by CPDHE , from 18-27 June, 2024. |