




## KIRORI MAL COLLEGE, UNIVERSITY OF DELHI



Title	Dr.	First Name	<b>Bhavana</b>	Last Name	<b>Sharma</b>	Photograph
Designation	<b>Assistant Professor (Ad-hoc)</b>					
Address	Department of Botany Kirori Mal College University of Delhi Delhi-110007					
Phone No	Office	-				
	Residence	-				
	Mobile	9999496374				
Email	bhavanasharma2511@gmail.com					
Web-Page						
Educational Qualifications						
Degree	Institution				Year	
BSc.(H) Botany	Ramjas College, University of Delhi				2010	
MSc. Botany	Department of Botany, University of Delhi				2012	
M.Phil	Department of Botany, University of Delhi				2013	
Ph.D	Department of Botany, University of Delhi				2020	
Career Profile						
<ul style="list-style-type: none"><li>• <b>Assistant Professor</b> (Guest faculty TID/024/34) in Gargi College, Department of Botany, University of Delhi from 29<sup>th</sup> January 2021 till 30<sup>th</sup> April, 2021.</li><li>• <b>Assistant Professor</b> (Guest faculty KC/PF/904) in Kalindi College, Department of Botany, University of Delhi from 2<sup>nd</sup> September 2019 till 15<sup>th</sup> May, 2020.</li><li>• <b>Technical assistant</b> for M.Phil &amp; Ph.D Botany coursework programme elective paper “EL 18 Nano-Biotechnology” during the academic session 2018-19 in the Department of Botany, University of Delhi.</li><li>• <b>Technical assistant</b> for M.Sc. Botany elective paper 4006 “Genomics &amp; Proteomics” in Semester-IV for the academic session 2014-2018 in the Department of Botany, University of Delhi.</li></ul>						
Administrative Assignments						
N.A						
Areas of Interest / Specialization						
<b>Proteomics, High-altitude Stress Physiology, Seabuckthorn, Antifreeze proteins, Nanobiotechnology</b>						
Subjects Taught						
<ul style="list-style-type: none"><li>• <b>Analytical Techniques in Plant Sciences</b></li><li>• <b>Plant Physiology</b></li><li>• <b>Plant Biotechnology</b></li><li>• <b>Plant Ecology</b></li><li>• <b>Economic Botany and Biotechnology</b></li></ul>						

• Environmental Science

Publications Profile

**a. Research Papers**

1. **Sharma, B.,** and Deswal, R. (2021). Comparative proteome profiling of seabuckthorn leaves from low altitude 'Sikkim' and high altitude 'Himachal Pradesh' Himalayan regions hints towards differential stress adaptive responses. **Journal of Proteins and Proteomics, ISSN No : 2524-4663. (Impact factor – 1.0\*).**
2. **Sharma, B.,** and Deswal, R. (2020). Ecophysiological analysis of stress tolerant Himalayan shrub *Hippophae rhamnoides* shows multifactorial acclimation strategies induced by diverse environmental conditions. **Physiologia Plantarum, 68, 58-76. ISSN No: 1399-3054. (Impact factor - 4.5). #The article mentioned as cover page of Physiologia Plantarum.**
3. **Sharma B.,** Arora S., Sahoo D., and Deswal, R. (2019). Comparative fatty acid profiling of Indian seabuckthorn showed altitudinal gradient species-specific variations. **Physiology & Molecular Biology of Plants, 26, 1-9. ISSN No : 0974-0430. (Impact factor – 2.391).**
4. **Sharma, B.,** Gupta, R., Sahoo, D., and Deswal, R. (2019). Purification of dual-functioning chitinases with hydrolytic and antifreeze activities from *H. rhamnoides* seedlings. **Journal of Proteins and Proteomics, 10, 69-81. ISSN No : 2524-4663. (Impact factor – 1.0\*).**
5. **Sharma, B.,** and Deswal, R. (2018). Single pot synthesised nanoparticles using *Hippophae rhamnoides* leaf and berry extract showed shape dependent differential nanobiotechnological application. **Artificial Cell, Nanomedicine, and Biotechnology, 1-11. ISSN No : 1399-3054. (Impact factor – 3.343).**
6. **Sharma, B.,** Sahoo, D., and Deswal, R. (2018). Single-step purification and characterization of antifreeze proteins from leaf and berry of a freeze tolerant shrub seabuckthorn (*H. rhamnoides*). **Journal of Separation Science, 41, 3938-3945. ISSN No : 1615-9314. (Impact factor – 3.645).**
7. Singh, A., **Sharma, B.,** and Deswal, R. (2018). Green silver nanoparticles from novel Brassicaceae cultivars with enhanced antimicrobial potential than earlier reported Brassicaceae members. **Journal of Trace Elements in Medicine and Biology, 47, 1-11. ISSN No : 1878-3252. (Impact factor – 3.849).**
8. **Sharma, B.,** Gupta, R., and Deswal, R. (2016). Mining the Protein Repertoire of a Himalayan Shrub, *Hippophae rhamnoides* for Antifreeze Proteins. **Journal of Proteins & Proteomics, 7(2) 199-211. ISSN No: 2524-4663. # Article mentioned as cover page of the journal.**
9. **Sharma, B.,** and Deswal, R. (2014). Antifreeze Proteins In Plants : An Overview with an Insight into the Detection Techniques including Nanobiotechnology. **Journal of Proteins &**

**Proteomics**, 5(2), 89-107. ISSN No : 2524-4663.

10. Deswal, R., Abat, J.K., Sehrawat, A., Gupta, R., Kashyap, P., Sharma, S., **Sharma, B.**, Chaurasia, S.P., Sougrakpam Y.C., Masi, A., Agrawal, G.K., Sarkar, A., et al. **(2014)**. First Systematic Plant Proteomics Workshop in Botany Department, University of Delhi: Transferring Proteomics Knowledge to Next-generation Researchers & Students. **Proteomics**, 14, 1581-1586. ISSN No : 1615-9861. **(Impact factor - 4.132)**.

#### **b. Chapter in books**

1. Gupta, R., **Sharma, B.**, and Deswal, R. **(2021)**. Deciphering the Proteomes and Nanotechnological Potential of an Unexplored Plant Seabuckthorn. **(Under Review)**.

#### **c. Articles**

1. Deswal, R., Arya, A., Chaurasia, S.P., Sougrakpam Y.C., Babuta, P., **Sharma, B.**, & Sharma, S. **(2017)**. Proteome Analysis of Brassica, Seabuckthorn & Dioscorea for Dissecting Abiotic (Cold/Freezing) Stress Signalling & Redox Modulation. **The Botanica**, 67, 24-33. **ISSN No : 0045-2629**.
2. **Sharma, B.**, Gupta, R., and Deswal, R. **(2013)**. Seabuckthorn-The New Age Sanjeevani. **The Botanica**, 62-63, 44-52. **ISSN No : 0045-2629**.
3. **Sharma, B.**, and Deswal, R. **(2013)**. Plant Proteomics: Driving Force Behind Current Plant Sciences. **The Botanica**, 62-63, 160-172. **ISSN No : 0045-2629. Awarded second best article award with cash prize of Rs. 1000/-**

#### **d. Conference Proceedings**

1. **Sharma, B.**, and Deswal, R. **(2015)**. Extraction and Purification of Antifreeze proteins in *Hippophae rhamnoides* seedling berry and leaf. In Proceedings of Conference of International Seabuckthorn Association on "Seabuckthorn: Emerging technologies for Health protection and Environmental conservation" 289-298, 24<sup>th</sup>-26<sup>th</sup> Nov, 2015, New Delhi. **ISBN No : 8170355205**.

#### Conference / Workshops/Training Organized

- **2017, Technical support** in hands-on-training **3<sup>rd</sup> Plant Proteomics Workshop** "Mining Proteome and Deep Proteome (by sub-cellular proteome analysis, depletion, affinity enrichment) and beyond" held at Department of Botany, University of Delhi, India from 19<sup>th</sup>-23<sup>rd</sup> Dec, 2017.
- **2015, Technical support** in hands-on-training **2<sup>nd</sup> Plant Proteomics Workshop** held at Department of Botany, University of Delhi, India from 21<sup>st</sup>-26<sup>th</sup> Dec, 2015.
- **2013, Technical support** in hands-on-training **1<sup>st</sup> Plant Proteomics Workshop** held at Department

<p>of Botany, University of Delhi, India from 26<sup>th</sup>-30<sup>th</sup> Dec, 2013.</p> <ul style="list-style-type: none"> <li>• <b>2014, Organizing Secretary</b>, National Seminar on “Does climate change influence food and energy security?” for Prof. B.M. Johri Rolling Shield Competition.</li> <li>• Assisted in compilation of <b>Manual</b> for Plant Proteomics Workshop held in 2019, 2017, 2015 &amp; 2013</li> </ul>
Creation of ICT Mediated Teaching Learning Pedagogy and Content
<b>N.A</b>
Conference/Workshops/Training attended as Faculty Member
<ul style="list-style-type: none"> <li>• Participated in two day National e-conference on "Plant Science Research: Relevance, Funding, Challenges and opportunities" organized by Department of Botany, Hansraj College in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi on 16-17 January, 2021.</li> </ul>
Invited Lectures/Resource Persons
<ul style="list-style-type: none"> <li>• <b>2019, Resource person</b> in <b>3<sup>rd</sup> National Conference on Seabuckthorn</b>: Translating research into sustainable utilization &amp; conservation held in Department of Botany, University of Delhi, 19-20<sup>th</sup> Dec, 2019.</li> <li>• <b>2019, Technical resource person</b> in hands-on-training <b>4<sup>th</sup> Plant Proteomics Workshop</b> and “Seabuckthorn Genomics, Proteomics &amp; Metabolomics” held in Department of Botany, University of Delhi from 23-27<sup>th</sup> Dec, 2019.</li> </ul>
Research Projects (Major Grants/Research Collaboration)
<ul style="list-style-type: none"> <li>• <b>Co-PI</b> of the (in-house) project "Green Synthesis of Gold Nanoparticles from Leaf Extract of <i>Rhoeo discolor</i> and study of its Antimicrobial Properties" in Kalindi College, University of Delhi.</li> </ul>
Awards and Distinctions
<ul style="list-style-type: none"> <li>• <b>2020, Research article</b> (Sharma and Deswal, 58-76), published and mentioned on <b>Vol 68, January issue, cover page of Physiologia Plantarum.</b></li> <li>• <b>2019, Best poster award</b> at <b>3<sup>rd</sup> National Conference of Seabuckthorn Association of India</b> on “Seabuckthorn held at Department of Botany, University of Delhi. (<b>Received cash prize of Rs. 5000/-</b>).</li> <li>• <b>2017, Best poster award</b> at <b>National Conference</b> “Emerging Discoveries in Health and Agricultural Sciences” held at Jawaharlal Nehru University, Delhi, India.</li> <li>• <b>2017, Best poster award</b> at <b>National Conference on Seabuckthorn</b> for Improving Health and Sustainable Development of Himalayan Region, held at DIHAR, Leh-Ladakh, India. (<b>Received cash</b></li> </ul>

*prize of Rs. 5000/-).*

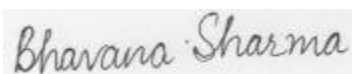
- **2016, Research article** (Sharma et al.), published and mentioned on **Vol 7(2) cover page of the Journal of Proteins & Proteomics.**
- **2014-15**, Certificate of appreciation for serving as **President, Delhi University Botanical Society (DUBS)**, Department of Botany, University of Delhi.
- **2012-13, First rank holder in M.Phil (Botany)**, Department of Botany, University of Delhi.
- **2013, Second Best Article award** for the article “Plant Proteomics” published in “*The Botanica*”.  
*(Received cash prize of Rs. 1000/-).*

#### Association with Professional Bodies

- Member, Society of Biological Sciences (SBSC), India
- Member, Seabuckthorn Association of India (SAI).
- Lifetime Member, Delhi University Botanical Society (DUBS), Department of Botany, University of Delhi, India.

#### Other Activities

- **2017-18**, Completed 3-credit semester course in Basic Biostatistics under Skill Enhancement Scheme.
- **2014-15**, Preparation of Departmental activities annual report organised by Delhi University Botanical society (DUBS), Department of Botany, University of Delhi, published in “*The Botanica*, Vol 64, 2014-15”.



Signature of Faculty Member