

# Dr. Peerzada Yasir Yousuf

(Ph.D. Botany, UGC-CSIR NET, ARS-NET, GATE, JK-SET)

*Assistant Professor | Plant Molecular Biologist & Proteomics Expert*



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**Google Scholar:** <https://scholar.google.com/citations?user=88OCqPYAAAAJ&hl=en> (H-index: 14 | Citations: 1107+)

**Address:** Department of Botany, SHMM Government Degree College, Anantnag – 192101, India

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## Professional Profile

A highly accomplished and dedicated academician and researcher with over 14 years of extensive experience in teaching, research, and administration in higher education. Possesses a strong background in Plant Molecular Biology, Stress Physiology, and Proteomics, with a proven track record of securing competitive fellowships, publishing in high-impact journals, and contributing to the academic community through editorial and leadership roles. Demonstrated expertise in securing top ranks in national-level competitive examinations and committed to advancing knowledge in plant sciences and fostering a high-quality learning environment for students.

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## Core Competencies & Areas of Expertise

- **Research Domains:** Plant Stress Physiology, Abiotic Stress Tolerance (Salt, Temperature, Nitrogen), Proteomics (Gel-based & Mass Spectrometry), Molecular Biology, Nitrogen Use Efficiency, Bioenergetics, Phytochemistry.
  - **Technical Proficiency:**
    - *Molecular & Proteomics:* 2D Gel Electrophoresis, SDS-PAGE, MALDI-TOF/TOF MS, Protein Isolation & Purification, PD-Quest Analysis, Real-Time PCR (qPCR).
    - *Biochemical & Physiological:* Antioxidant Profiling, Physiological Growth Analysis, HPTLC, Metabolite Profiling.
    - *Bioinformatics:* NCBI, UniProt, MS-data interpretation, genomic data analysis.
  - **Instrumentation:** MALDI-TOF Mass Spectrometer, UV-VIS Spectrophotometer (Perkin Elmer), NanoDrop, Gel Doc System (Bio-Rad), HPTLC (CAMAG), Lyophilizer (Labconco), CHNOS Analyzer, Fluorescence Microscope.
  - **Soft Skills:** Academic Leadership, Curriculum Development, Research Project Management, Student Mentorship, Institutional Administration, Excellent Written and Oral Communication.
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## Professional Experience

**Assistant Professor of Botany** | Department of Higher Education, Govt. of Jammu & Kashmir, India

*Nov 2017 – Present*

- Teach undergraduate courses in Botany, employing innovative pedagogical methods to enhance student understanding and engagement.
- Supervise student research projects and mentor students for competitive examinations.
- Hold significant administrative responsibilities, demonstrating leadership and organizational skills.

## Key Administrative Roles:

- **Secretary, Staff Council** | SHMM Govt. Degree College, Anantnag (Current)

- **NSS Programme Officer, Unit II** | SHMM Govt. Degree College, Anantnag (Current)
- **Convener, Landscape Development Committee** | SHMM Govt. Degree College, Anantnag (Current)
- **Assistant Coordinator**, IGNOU Study Center (Code: 1211) | SHMM Govt. Degree College, Anantnag (Current)
- Previously held multiple roles, including Nodal Officer (Red Ribbon Club), Convener (Subject Tour Committee), Faculty Coordinator (IIC Start-Up Cell), and Member of Research and Botanical Garden Committees.

**Lecturer of Botany** | Department of Education, Govt. of Jammu & Kashmir, India  
Nov 2017 – Nov 2019

- Delivered curriculum-based instruction and contributed to academic planning and assessment.

**Senior Research Fellow (ICAR-NICRA Funded Project)** | Hamdard University, New Delhi  
2014 – 2016

- Executed a high-impact research project titled “*Proteome analysis of nitrogen-efficient and nitrogen-inefficient wheat varieties at elevated CO<sub>2</sub> and high-temperature regimes.*”
- Applied advanced proteomic techniques (2D-GE, MALDI-TOF MS) to identify and characterize stress-responsive protein markers, leading to publications in reputed international journals.

**Guest Faculty** | Faculty of Medicine & Faculty of Science, Hamdard University, New Delhi  
2012 – 2015

- Taught Environmental Sciences to medical students and a course for the PG Diploma in Environmental Monitoring and Impact Assessment (PGDEMIA).

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## Education

- **Ph.D. in Botany** (2016) | Hamdard University, New Delhi
    - **Thesis:** Focused on proteomic and physiological responses of plants to abiotic stresses.
  - **M.Sc. in Botany** (2010) | Hamdard University, New Delhi
    - **Percentage:** 76.02% (Second Topper of the Batch)
  - **B.Sc.** (2007) | University of Kashmir, Srinagar
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### Competitive Examinations Qualified

- **UGC-CSIR National Eligibility Test (NET) for Lectureship & JRF** (June 2016): **All India Rank 39**
  - **Graduate Aptitude Test in Engineering (GATE)** (2016): **99.563 Percentile | All India Rank 45** (XL-Life Sciences)
  - **Agricultural Scientists Recruitment Board - NET (ARS-NET)** (Dec 2015): **94.22 Percentile**
  - **Jammu & Kashmir State Eligibility Test (JK-SET)** (2016)
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### Fellowships & Awards

- **SERB National Post-Doctoral Fellowship (N-PDF)** | Science and Engineering Research Board (SERB), DST, Govt. of India (Awarded, File No.: PDF/2016/001946)
  - **NESA Young Scientist of the Year Award** (2021) | National Environmental Science Academy (NESA), New Delhi
  - **Young Researcher Award** (2020) | Institute of Scholars, Karnataka
  - **Hamdard National Foundation Research Assistance Award** (2011-12, 2012-13)
  - **Topper**, JKPSC Selection List for Lecturer in Botany (2017)
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## Research Summary

- **Publications:** 16 Research Articles, 6 Book Chapters, 3 Edited Books, 2 Review Articles, 8 Abstracts, 23 Conference Presentations.
  - **Citation Metrics (Google Scholar): Citations:** 1107+ | **H-index:** 14 | **i10-index:** 15
  - **Editorial Contributions:**
    - **Board Member:** *Journal of Soil and Plant Biology*
    - **Reviewer Board Member:** *SEJ Life Sciences*
    - **Guest Editor:** Special Issue on "Plant Omics in Challenging Environments" for *Phyton-International Journal of Experimental Botany* (2022).
    - **Reviewer:** For journals including *Environmental and Experimental Botany*, *BMC Genomics*, *BMC Plant Biology*, *Scientific Reports*, etc
  - **Research Supervision:** Assisted in supervising 15 M.Sc. dissertations at Jamia Hamdard University, New Delhi.
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## Professional Development & Certifications

- **Cell Biology: Mitochondria** | Harvard University (Online)
  - **Bioenergetics of Life Processes** | IIT Kanpur (NPTEL, Score: 91%, **Gold + Elite, Topper**)
  - **Introduction to Proteomics** | IIT Bombay (NPTEL, Score: 71%, Elite)
  - **Methods in Molecular Biology** | Coursera (St. Petersburg Polytechnic University & Al-Farabi Kazakh National University)
  - **Faculty Development Programs:** Completed multiple FDPs/Refresher Courses on MOOCs Content Creation, NEP-2020 Implementation, and Online Teaching from Ramanujan College (Univ. of Delhi) and UGC Malaviya Mission Centre, University of Kashmir.
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**Professional Affiliations (Life Member)**

- National Environmental Science Academy (NESA), New Delhi
- National Academy of Biological Sciences (NABS), India
- Scientific and Technical Research Association (STRA), New York
- Institute of Scholars (InSc), Karnataka, India.
- Bentham Open Ambassador for India (2019-2020)

## Publications

### Research Articles:

1. **Peerzada Yasir Yousuf**, Arshid Hussain Ganie, Ishrat Khan, Mohammad Irfan Qureshi, Mohamed M Ibrahim, Maryam Sarwat, Muhammad Iqbal, Altaf Ahmad (2016) Nitrogen-efficient and nitrogen-inefficient Indian mustard showed differential expression patterns of proteins in response to elevated CO<sub>2</sub> and low nitrogen. *Frontiers in Plant Sciences*. 7:1074. doi: <https://doi.org/10.3389/fpls.2016.01074>
2. **Peerzada Yasir Yousuf**, Elsayed Fathi Abd\_Allah, Mohd Nauman, Ambreen Asif, Abeer Hashem, Abdulaziz A. Alqarawi, Altaf Ahmad (2017) Responsive proteins in wheat cultivars with contrasting nitrogen efficiencies under the combined stress of high temperature and low nitrogen. *Genes* 8:356; doi:10.3390/genes8120356.
3. **Peerzada Yasir Yousuf**, Altaf Ahmad, IbrahimM. Aref, Munir Ozturk, Hemant, Arshid Hussain Ganie, Muhammad Iqbal (2016) Salt-stress-responsive chloroplast proteins in *Brassica juncea* genotypes with contrasting salt tolerance and their quantitative PCR analysis. *Protoplasma* 253:1565–1575.
4. **Peerzada Yasir Yousuf**, Altaf Ahmad, Hemant, Muhammad Iqbal (2016) Salt stress-induced modulations in the shoot proteome of *Brassica juncea* genotypes. *Environ Sci Pollut Res* 23:2391–2401.
5. **Peerzada Yasir Yousuf**, Altaf Ahmad, Hemant, Arshid Hussain Ganie, Muhammad Iqbal (2015) Potassium and calcium application ameliorates growth and oxidative homeostasis in salt-stressed Indian mustard plants. *Pak J Bot* 47(5): 1629-1639.
6. Ganie AH, Ahmad A, Pandey R, Aref IM, **Yousuf PY**, Ahmad S, et al. (2015) Metabolite Profiling of Low-P Tolerant and Low-P Sensitive Maize Genotypes under Phosphorus Starvation and Restoration Conditions. *PLoS ONE* 10(6): e0129520.

7. **Peerzada Yasir Yousuf**, Altaf Ahmad, Arshid Hussain Ganie, Ovais Sareer, Vengavasi Krishnapriya, Ibrahim M. Aref, Muhammad Iqbal (2016) Antioxidant response and proteomic modulations in Indian mustard grown under salt stress. *Plant Growth Regulation*. DOI 10.1007/s10725-016-0182-y.
8. Arshid Hussain Ganie, Altaf Ahmad, **Peerzada Yasir Yousuf**, Renu Pandey, Sayeed Ahmad, Ibrahim M Aref, Muhammad Iqbal (2017) Nitrogen-regulated changes in the total amino acid profile of maize genotypes having a contrasting response to nitrogen deficit. *Protoplasma* doi:10.1007/s00709-017-1106-z.
9. Arshid Hussain Ganie, **Peerzada Yasir Yousuf**, Amjid Ahad, Renu Pandey, Sayeed Ahmad, Ibrahim M Aref, Jewel Jameeta Noor, and Muhammad Iqbal (2016) Quantification of phenolic acids and antioxidant potential of inbred, hybrid, and composite cultivars of maize under different nitrogen regimes. *Journal of Environmental Biology* 37(6), 1273-1279.
10. Muhammad Sabir, Yasir Anwar, Akram Khan, Muhammad Ali, **Peerzada Yasir Yousuf**, Khalid Al Ghamdi, and Khalid Rehman Hakeem (2019) ChiC gene Enhances Fungal Resistance in Indigenous Potato Variety (Diamant) via Agrobacterium-mediated transformation. *Biosciences Biotechnology Research Asia* 16(2), 343-350.
11. Shankar, B. A., Kaushik, P., Nasser Alyemeni, M., Alansi, S., & **Yasir Yousuf, P.** (2023). Transcriptional alterations associated with overexpression of a chlorogenic acid pathway gene in eggplant fruit. *Journal of King Saud University - Science*, 35(3), 102577. <https://doi.org/10.1016/j.jksus.2023.102577>
12. **Peerzada Yasir Yousuf**, Altaf Ahmad, Hemant, Arshid Hussain Ganie, Muhammad Iqbal (2015) Salt-induced modulations in the level of osmolytes and phosphorus metabolism in Indian mustard genotypes. *Int J Agri Sci* 6 (1) : 159-165.



13. Arshid Hussain Ganie, Altaf Ahmad, **Peerzada Yasir Yousuf**, Renu Pandey, Sayeed Ahmad, and Muhammad Iqbal (2015) Comparative HPTLC finger print profile of extracts from fresh aerial parts of *Zea mays* L. in different solvents under low and sufficient nitrogen fertilization conditions Int J Agri Sci 6 (1): 147-158.
14. Shazad Yaqub, Mohd. Aftab, Mohd. Asif and **Peerzada Yasir Yousuf** (2013) Quality assessment of Unani polyherbal formulation “habb-e-azaraqi” by contemporary scientific parameters. Int J Pharm Sci Res 4(9) 3569-3574.
15. Shazad Yaqub, Mohd Aftab, Mohd Asif, Aisha Siddiqui, **Peerzada Yasir Yousuf**, and Mohd Arshid (2013) Comparatives physicochemical and toxicological study between laboratory-made and co-marketed product of polyherbal formulation “habb-e-azaraqi”. Int. J. Drug Res. Tech. 3(3), 41-48.
16. Shazad Yaqub, Mohd Aftab Ahmad, Mohd Asif, Aisha Siddiqui, Nazeem Fahamiya, **Peerzada Yasir Yousuf**, Muneeb-Ur-Rahman, Mir Tahir Maqbool (2012) Standard operating procedures (sops) for the development of Unani polyherbal formulation “habb-e-azaraqi” and its physicochemical analysis" Int J Institutional Pharma Life Sci 2(4), 75-84.

## Review Articles:

1. **Yousuf, P. Y.**, Shabir, P. A., & Hakeem, K. R. (2021). miRNAomic Approach to Plant Nitrogen Starvation. International journal of genomics, 2021, 8560323. <https://doi.org/10.1155/2021/8560323>
2. Ahmad, B., Qadir, S.U., Dar, T.A., Pravej Alam, **Peerzada Yasir Yousuf** & Parvaiz Ahmad Karrikins: Smoke-Derived Phytohormones from Stress Alleviation to Signaling. J Plant Growth Regul (2022). <https://doi.org/10.1007/s00344-022-10703-4>

## Books:

1. Plant Eco-Genomics; Peerzada Arshid Shabir, **Peerzada Yasir Yousuf**, Khalid Rehman Hakeem (eds). CRC Press (Taylor and Francis group) USA. <https://www.appleacademicpress.com/plant-eco-genomics-/9781774910184>
2. Advances in Plant Nitrogen Metabolism; **Peerzada Yasir Yousuf**, Peerzada Arshid Shabir, Khalid Rehman Hakeem (eds). CRC Press (Taylor and Francis group) USA. DOI <https://doi.org/10.1201/9781003248361> eBook ISBN9781003248361
3. miRNAomics and Stress Management in Plants; **Peerzada Yasir Yousuf**, Peerzada Arshid Shabir, Khalid Rehman Hakeem (eds.) CRC Press (Taylor and Francis group) USA. [https://books.google.co.in/books/about/miRNAomics\\_and\\_Stress\\_Management\\_in\\_Plants.html?id=7UcaEQAAQBAJ&redir\\_esc=y](https://books.google.co.in/books/about/miRNAomics_and_Stress_Management_in_Plants.html?id=7UcaEQAAQBAJ&redir_esc=y)

## Book Chapters:

1. **Peerzada Yasir Yousuf**, Khalid Ul Rehman Hakeem, Ruby Chanda and Parvaiz Ahmad (2012) Role of Glutathione Reductase in Plant Abiotic Stress. In Abiotic Stress Responses in Plants; Ahmad, P., Prasad, M.N.V., Eds.; Springer: New York, USA, 2012; pp. 149–158.
2. **Peerzada Y.Y.**, Iqbal M. (2021) Leaf Senescence, and Ethylene Signaling. In Plant Growth Regulators; Aftab T., Hakeem K.R. (eds). Springer, Cham. [https://doi.org/10.1007/978-3-030-61153-8\\_7](https://doi.org/10.1007/978-3-030-61153-8_7). Pp 153-171.
3. Bilal Ahmad Wani, **Peerzada Yasir Yousuf**, and Peerzada Arshid Shabir (In press) Eco-Genomics: An Appraisal. In: Plant Eco-Genomics; Peerzada Arshid Shabir, Peerzada Yasir Yousuf, Khalid Rehman Hakeem (eds). CRC Press (Taylor and Francis group) the USA. <https://www.appleacademicpress.com/plant-eco-genomics-/9781774910184>
4. Divya Raj Prasad, Tarun Minocha, Bipin Maurya, and **Peerzada Yasir Yousuf** Advancement in Molecular Tools of Plant Population Genetics. In: Plant Eco-Genomics; Peerzada Arshid Shabir, Peerzada Yasir Yousuf, Khalid Rehman Hakeem (eds). CRC Press (Taylor and Francis group) the USA. <https://www.appleacademicpress.com/plant-eco-genomics-/9781774910184>

**5. Peerzada Yasir Yousuf**, Arjumand Fruk. Salt Stress and Nitrogen Metabolism in Plants. In: Advances in Plant Nitrogen Metabolism. Peerzada Yasir Yousuf, Peerzada Arshid Shabir, Khalid Rehman Hakeem (eds). CRC Press (Taylor and Francis group) USA. DOI<https://doi.org/10.1201/9781003248361> eBook ISBN9781003248361.

6. Nasir Aziz Wagay, Shah Rafiq, Amanullah Khan, Abdul Hadi, Aabida Ishrath, **Peerzada Yasir Yousuf**, Peerzada Arshid Shabir Introduction to Plant miRNAs. In: miRNAomics and Stress Management in Plants Peerzada Yasir Yousuf, Peerzada Arshid Shabir, Khalid Rehman Hakeem (eds). CRC Press (Taylor and Francis group) USA. <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003248453-1/introduction-plant-mirnas-nasir-aziz-wagay-shah-rafiq-amanulla-khan-abdul-hadi-aabida-ishrath-peerzada-yasir-yousuf-peerzada-arshid-shabir>

### **Conferences/workshops/Seminars/Webinars attended**

1. International Conference on Environment and Human Health, organized by National Environmental Science Academy in association with Department of Botany, Jamia Hamdard, New Delhi, India from 28<sup>th</sup> to 29<sup>th</sup> of November, 2012.
2. UGC-SAP DRS-1 sponsored National seminar on Medicinal Plant Research in India, organized by Jamia Hamdard, New Delhi, India from 16<sup>th</sup> to 17<sup>th</sup> of March, 2012.
3. National Seminar on Climate Change, Environment & Sustainable Development, jointly organized by National Environmental Science Academy & Department of Botany, Jamia Hamdard, New Delhi, India from 09<sup>th</sup> to 10<sup>th</sup> of December, 2013.
4. National Seminar on Medicinal Plant Research: Retrospect and Prospects, organized by Jamia Hamdard, New Delhi, India on 01 April 2014.
5. INDO-US workshop on nanoengineering in medicine held at AIIMS, New Delhi India from 17<sup>th</sup> to 19<sup>th</sup> of December, 2014.
6. National Seminar on Medicinal Plants: Markets to Produce, organized by National Environmental Science Academy, New Delhi, India from 29<sup>th</sup> to 30<sup>th</sup> of April, 2015.

7. India International Science Festival (IISF) at Indian Institute of Technology (IIT) New Delhi India, from 4<sup>th</sup> to 8<sup>th</sup> of December, 2015, organized by Ministry of Science and Technology (DST) and Ministry of Earth Sciences, Govt. of India.
8. National conference on “Protein Structure and Dynamics in Health and Agriculture” organized by Jamia Millia Islamia, New Delhi India, from 3<sup>rd</sup> to 4<sup>th</sup> of November, 2017.
9. International Conference On "Novel Approaches in Agro-ecology, Forestry, Horticulture, Aquaculture, Animal Biology and Food Sciences for Sustainable Community Development" (Agro-tech-2017) Organized by "Krishi Sanskrit" On 11<sup>th</sup> of November, 2017 at Convention Centre, Jawaharlal Nehru University, New Delhi.
10. International Conference on Civil, Architectural, and Environmental Sciences (ICAES 2017) organized by National Institute for Engineering and Research (NIER) at Delhi on 26<sup>th</sup> November 2017.
11. Attended Five Days Training Programme in Botany (Sr. Secondary Level) For Lecturers organized by District Institute of Education and Trainings Anantnag from 12<sup>th</sup> to 16<sup>th</sup> of February, 2019.
12. Attended webinar on “Accelerate Research Planning using Scopus, ScienceDirect and Mendeley” organized by Islamic University of Science and Technology in collaboration with Elsevier on 4<sup>th</sup> March 2020.
13. One-day online national Conference on Biodiversity Conservation and Sustainable Future (BCSF 2020) organized by Govt. Degree College Budgam and Govt. Degree College Pulwama Jammu and Kashmir on 6<sup>th</sup> June 2020.
14. Participated in online training Programme on Covid-19 guidelines for food handlers organized by FOSTAC (Food Safety Training and Certification) and FSSAI (Food Safety and Standards Authority of India) on 2<sup>nd</sup> June 2020.
15. Attended the webinar on Exploring web of science, Endnote X9, Journal Citation report & incites for promoting Excellence in research jointly organized by IUST Awantipora, TEQIP-3, and Clarivate Analytics on 5<sup>th</sup> June 2020.
16. Attended webinar on ACS Guide for Scholarly Communication Expert Advice for Early Career Researchers organized by ACS Publications on 27<sup>th</sup> May 2020.

17. Attended a webinar “COVID-19 Pandemic: Impact of Lockdown on Personal and Professional Life of Women” organized by Jamia Hamdard on 4<sup>th</sup> June 2020.
18. Participated in webinar “Smart Clinical Operational Therapy Education Plan during COVID19 Lockdown” organized by Jamia Hamdard New Delhi in association with All India Occupational Therapists Organization on 13<sup>th</sup> June 2020.
19. Participated in “C5: Crash Course on Climate Change and its consequences” organized by Department of Biotechnology and Medical Engineering, NIT Rourkela on 10<sup>th</sup> October 2020.
20. Participated in the online activity of The BodhiTree and SAFE Tools for Effective Online Teaching: A Hands-On Workshop held from 18 to 24 June 2020 organized by the Teaching Learning Centre (ICT) at IIT Bombay.
21. Actively participated in National Webinar on “Biodiversity Conservation-Prospects and Challenges” held on 19th June 2020 organized by Department of Botany K.L.E.s S. Nijalingappa College Bengaluru and presented a paper on “Elucidation of Proteomic markers of salt stress tolerance in Indian Mustard.
22. Participated in International Faculty and Research Development Program (IFRDP 2020) ON “How to become a successful researcher” held on June 2021 organized by Art of Giving Charitable Trust, India in association with Ace International Pte Ltd. Singapore.
23. Participated in the NeW IPR 2021 e-Workshop on “Innovations and Intellectual Property Rights” organized by Innovative Technology Enabling Centre (InTEC), CSIR-IMMT, Bhubaneswar, during June 14-19, 2021