

## Dr. Pradeep Kumar Singh

### Objectives

Taking place the proficiency toward teaching and revolve to endure a Scientist in the field of Arbuscular mycorrhizal fungi, carbon sequestration and Biocontrol Technology and host preference of the soil fungi and interactions with other microorganisms.

### Educational Qualifications

Ph. D.	2008	Dr Hari Singh Gour Central University, Sagar, MP, INDIA	<i>To study of microbial interaction among below ground organism with special reference to Fusarium wilt of chickpea.</i>
Postdoc	2013- 2016	Guru Ghasidas Central University, Bilaspur, CG, INDIA	<i>Isolation and Characterization of Glomalin Protein Produced by Arbuscular Mycorrhizal Fungi in Different Stress Conditions</i>

**Total Experience: 12 Years 02 Months**

**Teaching Experience 05 Years 02 Months**

- Presently teaching as **Asst. Professor (Botany)** at Department of Botany, Eternal University, Baru Sahib, Rajgarh, Sirmour - 173101, HP, INDIA since **February, 2018.**
- Teaching as **Asst. Professor (Botany)** at Department of Botany, GGSD College, Chandigarh - 160 032, HP, INDIA during **August 2017 to February 2018. (06 Months)**
- Teaching as **Asst. Professor (Botany)** at Department of Botany, Guru Ghasidas University, Bilaspur - 495 009, CG, INDIA during **August 2011 to May 2012. (11 Months)**
- Teaching as **Asst. Professor (Botany)** in at Govt. Degree College, Janakpur, Koriya, CG, INDIA during **August 2009 - April 2010. (10 Months)**
- Teaching as **Asst. Professor (Biotechnology)** at the **School of Biotechnology** in Guru Ghasidas University, Bilaspur - 495 009, CG, INDIA during in **August 2008-April 2009. (10 Months)**

### **Research Experience (After Ph D) 5 Years**

- **DST Fast Track Young Scientist** at Department of Botany, Guru Ghasidas University, Bilaspur – 495 009, CG, INDIA during May 2013 – May 2016.
- **Scientific Officer** at Society for Ideal Global Needs (SIGN), Sagar – 595 004, MP, INDIA during June 2012 to May 2013.
- **Project Officer** at Society for Ideal Global Needs (SIGN), Sagar – 595 004, MP, INDIA during May 2010 to August 2011

### **Research Experience (Before Ph D) 2 years**

- **Technical Assistant** at Indian Farm Forestry Development Co-Operative Ltd, Bilaspur – 495 001, CG, INDIA during August 2006 – July 2008.

### **Award**

- DST Fast Track Young Scientists in 2012 (Ref. No. SB/FT/LS-118/2012)  
**Topic :** *“Isolation and Characterization of Glomalin Protein Produced by Arbuscular Mycorrhizal Fungi in Different Stress Conditions”*

**Amount :** Rs. 26,45,000/- (*Twenty six Lakhs Forty Five Thousands Only*)

### **Techniques Known**

1. Handling of PCR, AFLP, Centrifuge, Electrophoresis, DNA synthesizer and DNA sequencer etc.
2. Isolation, Estimation and Identification of Symbiotic and pathogenic soil fungi.
3. Root processing and assessment of Arbuscular Mycorrhizal Fungi.
4. Mycological techniques such as:
  - (i) Observation of infection and isolation of the pathogenic soil fungi.
  - (ii) Maintenance of culture, collection and preparation of microscopic slides.

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## **PUBLICATIONS**

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### **PUBLICATIONS**

Total Citations	304
h –index	10
i 10 –index	13

### **Research Papers (25)**

1. Srivastava DK, Basal P, Pradeep Kumar Singh, Saggoo MIS (2020). Molecular Autograph of Maturase –K Gene in *Isodon rugosus* (Lamiaceae). *Botanica* 26: 95-100, doi:10.2478/biolit-2020-0009.

2. Meenakshi Singh, Mishra M, Srivastava DK, **Pradeep Kumar Singh** (2020). Biological control of Fusarium wilt of tomato by arbuscular mycorrhizal fungi with intercropping. *Plant Pathology & Quarantine*, 10: 1-9. DOI: 10.5943/ppq/10/1/1 ISSN: 2229-2217
3. **Pradeep Kumar Singh** (2018). Arbuscular mycorrhizal fungi and alien plant species. *Open Access Journal of Science*. 2: 23-24. DOI: 10.15406/oajs.2018.02.00039 ISSN: 2575-9086
4. **Pradeep Kumar Singh**, Mishra M, Vyas D (2016). Phytoprotection of Fusarium Wilt of Chickpea by AM Fungi. *Journal of the Botanical Society, University of Saugor*, 46: 102-111; ISSN: 2229-7170
5. **Pradeep Kumar Singh**, Vyas D (2016). Phytoprotection of Fusarium Wilt of Chickpea by AM Fungi. *Journal of the Botanical Society, University of Saugor*, 46: 112-128; ISSN: 2229-7170
6. **Pradeep Kumar Singh** (2015). Arbuscular mycorrhizal fungi influences oxidative stress in tomato plants in drought stress. *Research & Reviews: Journal of Botanical Sciences*, 4(3): 46-50. ISSN: 2320-0189
7. **Pradeep Kumar Singh** (2015). *In vitro* Cu-sequestration by glomalin from *Acaulospora spinosa* Walker & Trappe. *National Academy Science Letters*, 38(2):183-185, DOI: 10.1007/s40009-014-0309-5. ISSN: 0250-541X NAAS 6.52
8. Meenakshi Singh, Vyas D, **Pradeep Kumar Singh** (2014). Interaction of soil microbes with mycorrhizal fungi in tomato. *Archives of Phytopathology and Plant Protection*, 47(6): 737-743, DOI:10.1080/03235408.2013.820389. ISSN: 0323-5408
9. **Pradeep Kumar Singh**, Singh M, Tripathi BN (2013). Glomalin: an arbuscular mycorrhizal fungal soil protein. *Protoplasma* 250: 663-669. ISSN: 0033-183X; IF = 3.17; NAAS 8.46
10. **Pradeep Kumar Singh**, Singh M, Agnihotri VK, Vyas D (2013). Arbuscular Mycorrhizal Fungi: Biocontrol against Fusarium Wilt of Chickpea. *International Journal of Scientific Research Publications*, 3: 1-5. ISSN: 2250-3153
11. **Pradeep Kumar Singh** (2012). Role of Glomalin Related Soil Protein Produced by Arbuscular Mycorrhizal Fungi: A Review. *Agricultural Science Research Journal*. 2: 119-125. ISSN: 2026-6073
12. Singh M, **Pradeep Kumar Singh**, Vyas D. (2011). Mycorrhization in medicinal plants. *Mycorrhiza News*, 23: 19-23.
13. **Pradeep Kumar Singh**, SinghM, Vyas D. (2010). Biocontrol of *Fusarium* Wilt of Chickpea using Arbuscular Mycorrhizal Fungi and *Rhizobium leguminosorum* Biovar. *Caryologia*, 63: 349-353. ISSN: 0008-7114; IF = 0.840; NAAS 6.61
14. **Pradeep Kumar Singh**, MishraM, Vyas D. (2010). Effect of root exudates of mycorrhizal tomato plants on microconidia germination of *Fusarium*

- oxysporum* f. sp. *lycopersici* than root exudates from non-mycorrhizal tomato plants. *Archives of Phytopathology and Plant Protection*, **43**: 1495-1503. **ISSN: 0323-5408**
15. **Pradeep Kumar Singh**, Mishra M, Vyas D. (2010). Interactions of vesicular arbuscular mycorrhizal fungi with *Fusarium* wilt and growth of tomato (*Lycopersicon esculentum* Mill.)". *Indian Phytopathology*, **63**:30-34. **ISSN: 0367-973X; NAAS 5.90**
  16. Agnihotri VK, **Pradeep Kumar Singh**. (2010). Potability of drinking water at various sites of Sagar City, Madhya Pradesh. *Asian Journal of Environmental Science*, **5**: 8-10. **ISSN: 0973-4759; NAAS 3.94**
  17. **Pradeep Kumar Singh**, Vyas D. (2009). Biocontrol of plant diseases and sustainable agriculture. *Proceedings of National Academy of Sciences INDIA*, **79**(II): 110-128. **ISSN: 0369-8211; IF = 0.396 NAAS 7.53**
  18. **Pradeep Kumar Singh**, Tiwari UK, Singh N. (2009). Biodiversity : use and conservation. *Madhya Bharti* **55**: 48-54. **ISSN: 0974-0066**
  19. Mishra MK, Mishra A, **Pradeep Kumar Singh**, Vyas D. (2008). Seasonal distribution of arbuscular mycorrhizal fungi (AMF) in Vindhyan soil. *Indian Phytopathology*, **61**: 360-362. **ISSN: 0367-973X; NAAS 5.90**
  20. Vyas D, **Pradeep Kumar Singh**, Mishra MK, Dubey A. (2008). VAM association in weeds of semi-natural grassland of Sagar. *Indian Journal of Agroforestry*, **10**: 91-97. **ISSN: 2456-6489; NAAS 4.53**
  21. Vyas D, Dubey A, Soni A, Mishra MK, **Pradeep Kumar Singh**, Gupta RK. (2008). Vesicular arbuscular mycorrhizal association in Bryophytes isolated from Eastern and Western Himalayas. *Mycorrhiza News*, **19**: 16-19.
  22. Vyas D, Dubey A, Mishra MK, **Pradeep Kumar Singh**. (2008). Occurrence of AM fungi at varying stages of growth of rice plants. *Proceedings of National Academy of Sciences INDIA*, **78**(B): I, 45-48. **ISSN: 0369-8211; IF = 0.396 NAAS 7.53**
  23. **Pradeep Kumar Singh**, Mishra MK, Vyas D. (2007). Efficacy of *Trichoderma* spp. strains in the control of *Fusarium* wilt of tomato. *Journal of Mycology and Plant Pathology*, **37**: 105-107. **ISSN: 0303-4097; NAAS 5.79**
  24. Vyas D, Dubey A, Soni A, **Pradeep Kumar Singh**, Mishra MK. (2007). Arbuscular mycorrhizal fungi in early land plants. *Mycorrhiza News*, **19**: 22-24.
  25. Vyas D, Mishra MK. **Pradeep Kumar Singh**, Soni P (2006). Mycorrhizal association in wheat grown in Sagar. *Indian Phytopathology*, **59**: 174-179. **ISSN: 0367-973X; NAAS 5.90**

### **Books (03)**

1. **Pradeep Kumar Singh** (2011). *Soil Microbial Interaction*. ISBN No. 978-3-8465-1245-6. Lap Lambert Academic Publishing, Germany.
2. Singh M, **Pradeep Kumar Singh** (2012). *Ethanobotany*. ISBN No. 978-3-8465-2736-8. Lap Lambert Academic Publishing, Germany.
3. **Pradeep Kumar Singh**, Jain AK, Agnihotri VK. (2012) *Ethnobotany : Practice and conservation of Forest by Tribals*. ISBN No. 978-3-8473-1261-1. Lap Lambert Academic Publishing, Germany.

### **Book Chapters (07)**

1. **Singh M, Mishra M, Srivastava DK, Pradeep Kumar Singh** (2020) Arbuscular Mycorrhiza-Associated Rhizobacteria and Biocontrol of Soilborne Phtopathogens. In: *Biostimulants in Plants Sciences*. Doi:<http://dx.doi.org/10.5772/intechopen.89266>
2. **Pradeep Kumar Singh** (2011). Suggestions towards improving the quality of Ethnobotanical surveys and research. In :*Ethnobotany: Practice and Conservation of Forest by Tribals* (Edited by Singh PK, Jain AK, Agnihotri VK), Lap Lambert Academic Publishing, Germany.
3. **Pradeep Kumar Singh**, Vyas D. (2011). *Trichoderma* species: The history and evolution of current concepts of biological control. In: *Microbial Biotechnology and Ecology* (Edited by Vyas D, Paliwal GS, Khare PK, Gupta RK), 377-390. Daya Publications, New Delhi
4. Vyas D, Mishra M, **Pradeep Kumar Singh**, Shukla A, Gupta RK. (2011). Arbuscular mycorrhizal fungi : The hidden heroes of the soil. In: *Microbial Biotechnology and Ecology* (Edited by Vyas D, Paliwal GS, Khare PK, Gupta RK), 225-255. Daya Publications, New Delhi
5. Dwivedi OP, Mishra M, **Pradeep Kumar Singh**, Richharia PK, Soni P, Vyas D. (2011). Cumulative effect of VAM fungi. In: *Microbial Biotechnology and Ecology* (Edited by Vyas D, Paliwal GS, Khare PK, Gupta RK), 256-267. Daya Publications, New Delhi
6. Mishra M, **Pradeep Kumar Singh**, Vyas D. (2011). Arbuscular mycorrhizal fungi as symbiotic bioengineers. In: *Contribution to the Mycological Progress* (Edited By Sati SC), 119-135. Daya Publications, New Delhi
7. Vyas D, **Pradeep Kumar Singh**, Mishra M, Gupta RK. (2010). Phytoprotection by arbuscular mycorrhizae. In: *Bioinoculants for Integrated Plant Growth* (Edited By Laxman HC), 373-420. MD Publications, New Delhi

## Papers Communicated (05)

1. Singh M, Srivastava DK, Mishra M, **Pradeep Kumar Singh** (2020). Drought tolerance, Growth, and Photosynthesis in *Solanum lycopersici* improves by arbuscular mycorrhizal symbiosis. *Indian Journal of Physiology*
2. **Pradeep Kumar Singh** (2020). Glomalin production by an arbuscular mycorrhizal fungus *Rhizophagus intraradices*: a mechanism of drought tolerance. *Indian Journal of Microbiology*
3. **Pradeep Kumar Singh** (2020). Differential decomposition of arbuscular mycorrhizal fungal hyphae (*Rhizophagus intraradices*) and glomalin production. *Soil Biology and Biochemistry*
4. Singh M, **Pradeep Kumar Singh** (2020). Growth and drought tolerance in tomato plants by colonization with arbuscular mycorrhizal fungi. *Indian Journal of Plant Physiology*
5. Singh M, **Pradeep Kumar Singh** (2020). Growth and drought tolerance in tomato plants by colonization with arbuscular mycorrhizal fungi. *Applied Soil Ecology*

## Organized conferences/workshop: (03)

1. **Convener**, May 24-25, 2019, National Conferences on “New Insights in Biological and Environmental Sciences”, held at Department of Botany, Eternal University, Baru Sahib, HP
2. **Organizing Member**, March 17-18, 2012, National Symposium on “Plant Biology and its Role in Sustainable Food and Energy Production”, held at Department of Botany, Guru Ghasidas University, Bilaspur (CG).
3. **Organizing Member**, January 20-21, 2008, National Seminar on “Vision 2008: Current Challenges in Biological Sciences” and Annual Meet of Society of Basic & Applied Mycology, held at Department of Botany, Dr. H.S. Gour University, Sagar (MP)

## Symposia/ Conferences (14)

1. Poster presented entitled “The role of metal nanoparticles .....” in a Regional Conference of Young Scientists on Nanoscience and Nanomaterials, held at Regional Office for Central & South Asia, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, 18-20 February, 2015.
2. Paper presented “.....” in a National Conference on Recent Advances and Challenges in Biological Sciences (RACBS – 2015) ..... held at Dr H S Gour University, Sagar, 17 March 2015.
3. Paper presented “Biocontrol activity of *Trichoderma harzianum*.....” Jan 30-31, 2014, Mysore.
4. Paper presented entitled “Symbiosis of .....” in a National Symposium on Plant Biology and its Role in Sustainable Food and Energy Production, held at Department of Botany, Guru Ghasidas University, Bilaspur (C.G.), 17-18 March, 2012.

5. Paper presented in 22nd MP Young Science Congress, Held at MPCOST, Bhopal (M.P.), 22 - 23 February, 2010.
6. Poster presented entitled "Exploitation of AMF .....". In 97th Indian Science Congress, held at Trivendrum, 3-7 January, 2010.
7. Paper presented National Seminar, Vision 2008: Current Challenges in Biological Sciences and Annual Meet of Society of Basic & Applied Mycology, held at Dr. H.S. Gour University, Sagar (MP), 20-21 January, 2008.
8. Paper presented in 22nd MP Young Science Congress, Held at SATI College, Vidisha (M.P.), 28 February -1 March, 2007.
9. Paper presented entitled "Systemic resistance induced by .....". In 28th National Symposium & Annual Meet of Indian Society of Mycology & Plant Pathology, held at GBPUT Pantnagar (UT), 9-11 November, 2006.
10. Paper presented in 21st MP Young Science Congress, Held at APS University, Rewa (M.P.), 28 February -1 March, 2006.
11. Poster presented entitled "Efficacy of *Trichoderma* strains .....". In 93rd Indian Science Congress, held at Hyderabad, 3-7 January, 2006.
12. Paper presented entitled "Integrated disease management .....". In National Seminar held at Ballia (U.P.), 15-17 October, 2005
13. Paper presented entitled "Ethanomedicinal study ...". In National Seminar of UGC & ICMR, at Department of Anthropology, Pondicherry University, Pondicherry, 14-15 March, 2005.
14. Paper presented entitled "Polymerase Chain Reaction .....". In National Science Day, held at Dr. H.S. Gour University, Sagar (M.P.) 28th February 2005.

## REFERENCES

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I declare that the facts stated above are true to the best of my knowledge and belief and there is no suppression or concealment of any material fact/information on my part.

Date:     /     /2020

Place: Baru Sahib

*(Pradeep Kumar Singh)*