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# Curriculum Vitae

**SAHIL MAHFOOZ**

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**Area of Interest:** Comparative genomics  
Conservation genetics  
Plant-Microbe Interaction

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## Teaching, research, and industry experience

Working as a Guest faculty at **Department of Industrial Microbiology, DDU Gorakhpur University (Since 2023)**

**Guest faculty** at the Department of Biotechnology, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, 226025 (2019-2020)

**Postdoctoral RA** at the Division of Plant-Microbe Interaction, **CSIR-National Botanical Research Institute**, Lucknow, India (2015-2018).

- Studied the role of microbes in ameliorating CO<sub>2</sub> stress in rice grown under FACE.
- Development of microsatellite based species-specific markers for the identification of fungi.

**Postdoctoral RA** at **CSIR-Central Drug Research Institute**, Lucknow, India (2013-2015)

- Studied the roles of different signaling molecules in females affected by Polycystic ovarian syndrome (PCOS) and Premature ovarian failure (POF) along with embryo implantation paradox using techniques like western blotting, immune-histochemistry, immune-fluorescence etc.

**Postdoctoral RA** at **ICAR-National Bureau of Agriculturally Important Microorganisms**, Mau, India (2010 -2013).

- Engaged in the development of South Asia's first microbial gene bank, the "Microbial Genomics Resource Repository," where we coordinated the assemblage, conservation, quality control, and validation of the microbial genomic resources to facilitate their optimal exploitation and utilization.

**Postdoctoral RA** at **ICAR- Indian Institute of Pulses Research**, Kanpur, India (2007-2010).

- Development of EST based polymorphic SSR markers from wild *Cajanus* species to identify hybrids between wild and cultivated species.

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## Education

**Ph. D. (Biotechnology) 2006.** Directorate of Mushroom Research, Solan and Barkatullah University, Bhopal

**Thesis title:** Induction and molecular characterization of genetic variation in *A. bisporus*

- Doctoral work was focused on creating genetic variability in *Agaricus bisporus*, which is supposed to be among the most difficult organisms to breed. The significant outcomes from the study are as follows,
- A protocol for the rapid isolation of protoplasts from *A. bisporus* mycelium was standardized.
- The activity of Laccase and Mn-dependent peroxidase enzymes was established as a marker for higher yield in *A. bisporus*.

**M.Sc. (Biotechnology) 2002.** V.B.S. Purvanchal University (DBT funded), Jaunpur, India

**B.Sc. (Botany, Chemistry) 2000.** St. Andrew's College, Gorakhpur, India

**Qualified ARS-NET** examination for Lectureship in Indian Universities

**Date of Birth:** February 25, 1981

## Published papers in SCI journals

33. P Agarwal, N Shukla, A Bhatia, **S Mahfooz\***, Jitendra Narayan (2024) Comparative genome analysis reveals driving forces behind Monkeypox virus evolution and sheds light on the role of ATC trinucleotide motif. **Virus Evolution**. <https://doi.org/10.1093/ve/veae043> [IF:6.9]
32. MA Hussain, J Narayan, AK Dwivedi, NARK Mohammed, MA Kausar, S Anwar, R Singh, AM Khalifa, **S Mahfooz\*** (2024) Elucidation of SSR polymorphism in human pathogenic fungi *Cryptococcus neoformans* with focus on isolate-specific marker generation and genetic diversity assessment. **Biologia**. <https://doi.org/10.1007/s11756-024-01761-y> [IF: 1.5]
31. MA Kausar, J Narayan, N Mishra, Y Akhter, R Singh, AM Khalifa, ABM El-Hag, RME Ahmed, N Tyagi, **S Mahfooz\*** (2024) Studying human pathogenic *Cryptococcus gattii* lineages by utilizing simple sequence repeats to create diagnostic markers and analyzing diversity. **Biochemical Genetics** <https://doi.org/10.1007/s10528-024-10812-7> [IF 2.6]
30. MA Kausar, J Narayan, P Agarwal, P Singh, RME Ahmed, ABM El-Hag, AM Khalifa, NARK Mohammed, R Singh, **S Mahfooz\*** (2024) Distribution and conservation of simple sequence repeats in plant pathogenic species of *Zymoseptoria* and development of genomic resources for its orphaned species. **Antonie van Leeuwenhoek** <https://doi.org/10.1007/s10482-023-01915-z> [IF 2.6]
29. N Mishra, P Prasad, **S Mahfooz**, R Shivhare, P Verma, SP Singh, S Mishra, SK Mishra, R Bajpai, Aradhana Mishra (2024) Comprehensive analysis of *Trichoderma reesei* mediated CO<sub>2</sub> stress attenuating responses and de novo transcriptome sequencing of rice flag leaf. **Physiologia Plantarum** DOI: 10.1111/ppl.14160 [IF 6.4]
28. NM Alotaibi, M Saeed, N Alshammari, NM Alabdallah, and **S Mahfooz\*** (2023) Comparative genomics reveals the presence of simple sequence repeats in genes related to virulence in plant pathogenic *Pythium ultimum* and *Pythium vexans*. **Archives of Microbiology** DOI : 10.1007/s00203-023-03595-9 [IF: 2.8]
27. **S Mahfooz\***, J Narayan, RME Ahmed, ABM El Hag, NARK Mohammed and MA Kausar (2022) Comparative genomics reveals genus specific encoding of amino acids by trinucleotide SSRs in human pathogenic *Streptococcus* and *Staphylococcus* bacteria. **Biologia** 77:2955–2966 [IF: 1.5]
26. **S Mahfooz**, G Shankar, J Narayan, P Singh, and Y Akhter (2022) Simple sequence repeat insertion induced stability and potential ‘gain of function’ in the proteins of extremophilic bacteria. **Extremophiles** 26 [doi.org/10.1007/s00792-022-01265-0](https://doi.org/10.1007/s00792-022-01265-0) [IF: 2.9]
25. **S Mahfooz\***, P Singh, and Y Akhter (2022) A comparative study of microsatellites among crocodiles and development of genomic resources for the critically endangered Indian gharial. **Genetica** 150:67-75[IF: 1.5]
24. **S Mahfooz\***, A Srivastava, MC Yadav and A Tahoor (2019) Comparative genomics in phytopathogenic prokaryotes reveals the higher relative abundance and density of long-SSRs in the smallest prokaryotic genome. **3 Biotech** 9:340 [doi: 10.1007/s13205-019-1872-8](https://doi.org/10.1007/s13205-019-1872-8) [IF: 2.8]
23. SP Singh, S Pandey, N Mishra, VP Giri, **S Mahfooz et al.**, (2019) Supplementation of *Trichoderma* improves the alteration of nutrient allocation and transporter genes expression in rice under nutrient deficiencies. **Plant Physiology and Biochemistry** 143:351-363 [IF: 6.5]
22. A Tahoor, JA Khan and **S Mahfooz\*** (2019) A comparative survey of microsatellites among wild and domestic cat provides valuable resources for marker development. **Molecular Biology Reports** 46(3): 3025-3033[IF: 2.8]
21. A Mishra, SP Singh, **S Mahfooz, et al.**, (2019) External supplement of impulsive micromanager *Trichoderma* helps in combating CO<sub>2</sub> stress in rice grown under FACE. **Plant Molecular Biology Reporter** 37(1-2):1-13 [IF: 2.1]
20. A Mishra, SP Singh, **S Mahfooz, et al.**, (2018) Bacterial endophytes modulates the withanolide biosynthetic pathway and physiological performance in *W. somnifera* under biotic stress. **Microbiological Research** 212-213:17-28 [IF: 6.7]
19. A Mishra, SP Singh, **S Mahfooz**, SP Singh *et al.*, (2018) Endophyte-mediated modulation of defense-responsive genes and systemic resistance in *Withania somnifera* (L.) Dunal under *Alternaria alternata* stress. **Applied and Environmental Microbiology** 84(8):e02845-e02845-17 [IF: 4.4]
18. **S Mahfooz**, SP Singh, N Mishra, A Mishra (2017) A comparison of microsatellites in phyto-pathogenic *Aspergillus* species in order to develop markers for the assessment of genetic diversity among its isolates. **Frontiers in Microbiology** 8:1774 [IF: 5.2]
17. **S Mahfooz et al.**, (2016) A Comprehensive Characterization of SSRs in the Sequenced *Trichoderma* Genomes Provides Valuable Resources for Marker Development. **Frontiers in Microbiology** 7, 575. [IF: 5.2]
16. **S Mahfooz\***, A Srivastava, AK Srivastava, DK Arora (2015) A comparative analysis of distribution and conservation of microsatellites in the transcripts of sequenced *Fusarium* species and development of genic-SSR markers for polymorphism analysis. **FEMS Microbiology Letters** 362, fmv131. [IF: 2.1]
15. A Joshi, **S Mahfooz, et al.**, (2014) PARP1 during embryo implantation and its upregulation by oestradiol in mice. **Reproduction** 147, 765-780. [IF: 3.8]
14. VK Maurya, C Sangappa, V Kumar, **S Mahfooz, et al.**, (2014) Expression and activity of Rac1 is negatively affected in the dehydroepiandrosterone induced polycystic ovary of mouse. **Journal of Ovarian Research** 7, 32. [IF: 4.0]
13. S Datta , P Singh, **S Mahfooz**, GP Dixit (2014) Estimation of genetic diversity in fieldpea (*Pisum sativum* L.) based on analysis of hyper-variable regions of the genome. **Journal of Food Legumes** 27, 85.

12. S. Datta, P. Singh, **S Mahfooz**, *et al.*, (2013) Novel genic microsatellite markers from *Cajanus scarabaeoides* and their comparative efficiency in revealing genetic diversity in pigeonpea. *Journal of Genetics* 92, e24. [IF: 1.5]
11. S Datta, **S Mahfooz** *et al.*, (2013) Conservation of genic and genomic microsatellite regions across legume genera allows marker transferability for polymorphism studies in pigeonpea [*Cajanus Cajan* (L.) Millspaugh]. *Australian Journal of Crop Science* 7, 1990. [IF: 0.9]
10. S Datta, M Kaashyap, P Singh, P Gupta, T Anjum, **S Mahfooz** *et al.*, (2012) Conservation of microsatellite regions across legume genera enhances marker repertoire and genetic diversity study in Phaseolus genotypes. *Plant Breeding* 131, 307. [IF: 2.0]
9. **S Mahfooz**, DK Maurya, AK Srivastava, S Kumar, DK Arora (2012) A comparative in silico analysis on frequency and distribution of microsatellites in coding regions of three formae speciales of *Fusarium oxysporum* and development of EST-SSR markers for polymorphism studies. *FEMS Microbiology Letters* 328, 54[IF: 2.1]
8. **S Mahfooz\*** *et al.*, (2012) Microsatellite repeat dynamics in mitochondrial genomes of phytopathogenic fungi: frequency and distribution in the genic and intergenic regions. *Bioinformation* 8, 1171.
7. H Sahay, **S Mahfooz** *et al.*, (2012) Exploration and characterization of agriculturally and industrially important haloalkaliphilic bacteria from environmental samples of hypersaline Sambhar lake, India. *World Journal of Microbiology and Biotechnology* 28, 3207. [IF: 4.1]
6. S Datta, **S Mahfooz** *et al.*, (2010) Cross-genera amplification of informative microsatellite markers from common bean and lentil for the assessment of genetic diversity in pigeonpea. *Physiology and Molecular Biology of Plants* 16, 123. [IF: 3.5]
5. S Singh, KN Singh, R Kant, **S Mahfooz**, S Datta, (2008) Assessment of genetic diversity among pigeonpea genotypes using SSR markers. *Indian Journal of Genetics and Plant Breeding* 68, 255 [IF: 1.0]
4. **S Mahfooz**, MC Yadav, S Kamal, SK Singh, A Prakash (2007) Genetic variation in extracellular lignolytic enzymes and their effect on mushroom yield in single spore progenies of *Agaricus bisporus*. *Mushroom Research* 16, 1.
3. MC Yadav, S Kamal, **S Mahfooz** *et al.*, (2004) Laccase polymorphism in *Agaricus bitorquis* germplasm. *Mushroom Research* 13, 7.
2. MC Yadav, **S Mahfooz**, SK Singh, RC Upadhyay (2003) RAPD markers assisted selection of genetically diverse parents for hybridization in *Agaricus bisporus*. *Mushroom Research* 12, 19.
1. MC Yadav, SK Singh, RC Upadhyay, **S Mahfooz** (2003) Molecular and morpho-physiological characterization of *Agaricus bitorquis* germplasm. *Mushroom Research* 12, 79.

**Total impact factor: 90.5; Total number of citations: 600; H index: 13; \* indicates Corresponding author**

#### Chapter in books

1. Sujeet Kumar, Sahil Mahfooz and Hemant Kumar Yadav (2019) Recent advances in the cultivation of Linseed (*Linum usitatissimum*) in India. Chapter 4 In: Linseed: Properties, production and usage (Editors: H Kumar Yadav et al.) Nova Science Publishers, ISBN: 978-1-53616-090-1 Inc 400 Oser Ave. Suite 1600 Hauppauge NY 11788-3619

#### Peer-review for journals

Archive of Microbiology (5), *PLOS One* (5) *Public Health Genomics* (3), *FEMS Microbiology Letters* (2), *Evolutionary Bioinformatics* (1), *Journal of Biogeography* (1), *Crop Breeding and Applied Biotechnology* (1), *Nucleic Acid Research* (1), *Plant Physiology and Biochemistry* (2)

#### Awards and honors

1. **Gorakhpur Ratna** – UP State Government (2025). Awarded for excellence in scientific research.
2. **University Research Excellence Award** – DDU Gorakhpur University, Gorakhpur (2025). Recognized for publications in two Q1 and three Q3 journals in the year 2024.
3. **Prithvi Mitra** – UP Forest Department & Shaheed Ashfaq Ullah Khan Zoological Park (2025). Awarded for published research on the conservation of endangered species, including the Tiger, Cheetah, and Crocodile.
4. **Best Poster Award** – UP Agricultural Science Congress (2016). Recognized for outstanding poster presentation.