Dr. SALMA MUKHTAR

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Educational Qualifications

Degree/Certificate	Year	Grade/CGPA	Institute
PhD (Biotechnology)	2014-2018	3.47	Forman Christian College, Lahore
M. Phil (Biotechnology)	2009-2011	3.54	Forman Christian College, Lahore
B.Sc. (Hons) Botany	2005-2009	3.40	Dept. Botany, PU, Lahore
F.Sc.(Pre-Medical)	2001-2003	A	B.I.S.E. Gujranwala
Matric (Science)	1999-2001	A	B.I.S.E. Lahore

Dissertations

- **PhD Thesis**: Microbial diversity and metagenomic analysis of rhizosphere of plants growing in extremely halophytic environment (Khewra Salt Mines)
- **M. Phil Thesis**: Microbial diversity and metagenomic analysis of the rhizosphere of plants growing under saline conditions

Work experience

- Assistant Professor at School of Biological Sciences, University of the Punjab, 17-12-2018 to date.
- Research Associate, Forman Christian College University, Lahore in HEC project entitled, Microbial diversity and metagenomic analysis of rhizosphere of halophytes growing in hypersaline environments. 06-12-2012 to 08-04-2018
- Teacher Assistant for theory and practical courses to undergraduate classes (Introduction to biotechnology, Recombinant DNA technology and Microbial biotechnology) at Forman Christian College University, Lahore. 31-01-2016 to 05-01-2017.
- IRSIP fellowship at Hirsch's lab UCLA, 22-04-2017 to 30-10-2017.
- Supervision and training of more than 10 M-Phill and Bsc(Hons) research students.

Recent Publications

1. **Salma Mukhtar,** Muhammad S Mirza, Humera A Awan, Asma Maqbool, Samina Mehnaz and Kauser A Malik. 2016. Microbial diversity and metagenomic analysis of the rhizosphere of Para Grass (*Urochloa mutica*) growing under saline conditions. Pak J Bot. 48(2): 779-791.
2. **Salma Mukhtar,** Muhammad S Mirza, Samina Mehnaz and Kauser A Malik. 2017. Comparison of microbial communities associated with halophyte (*Salsola stocksii*) and non-halophyte (*Triticum aestivum*) using culture-independent approaches. Pol J Microbiol. 66(3): 375–386.

3. **Salma Mukhtar,** Izzah Shahid, Samina Mehnaz and Kauser A Malik. 2017. Assessment of two carrier materials for phosphate solubilizing biofertilizers and their effect on growth of wheat (*Triticum aestivum*). Microbiol Res. 205: 107-117.
4. **Salma Mukhtar,** Ahmad Zaheer, Dalaq Aiysha, Kauser A Malik and Samina Mehnaz. 2017. Actinomycetes: A source of industrially important enzymes. J Proteomics Bioinform. 10(12): 316-319.
5. **Salma Mukhtar,** Muhammad S Mirza, Samina Mehnaz, Babur S Mirza, and Kauser A Malik. 2018. Diversity of *Bacillus*-like bacterial community in the rhizospheric and non-rhizospheric soil of halophytes (*Salsola stocksii* and *Atriplex amnicola*) and characterization of osmoregulatory genes in halophilic *Bacilli.* Can J Microbiol. 64(8): 567-579.
6. **Salma Mukhtar,** Muhammad S Mirza, Samina Mehnaz, Babur S Mirza, Joan Mclean and Kauser A Malik. 2018. Impact of soil salinity on the structure and composition of rhizosphere microbiome. World J Microbiol Biotech. 34:136.
7. **Salma Mukhtar,** Kauser A Malik and Samina Mehnaz. 2018. Isolation and characterization of haloalkaliphilic bacteria from the rhizosphere of *Dichanthium annulatum*. J Adv Res Biotech. 3(1): 1-9.
8. **Salma Mukhtar,** Muhammad S Mirza, Samina Mehnaz and Kauser A Malik. 2019. Isolation and characterization of halophilic bacteria from the rhizosphere of halophytes and non-rhizospheric soil samples. Braz J Microbiol. 50 (1): 85-97.
9. **Salma Mukhtar,** Samina Mehnaz and Kauser A Malik. 2019. Microbiome of halophyte: diversity and importance for plant health and productivity. Microbiol Biotechnol Lett. 47(1): 1-10.
10. **Salma Mukhtar,** Samina Mehnaz and Kauser A Malik. 2019. Microbial diversity in the rhizosphere of plants growing under extreme environments and its impact on crops improvement. Environ. Sustain. https://doi.org/10.1007/s42398-019-00061-5.
11. **Salma Mukhtar,** Samia Ahmad, Aftab Bashir, Samina Mehnaz and Kauser A Malik. 2019. Identification of plasmid encoded osmoregulatory genes from halophilic bacteria isolated from the rhizosphere of halophytes. Microbiol Res. 228: 126307.
12. **Salma Mukhtar,** Nayaab Laaldin, Samina Mehnaz and Kauser A Malik. 2019. Recent advances in soil metaproteomics from hypersaline environments. (Accepted in Proc. Pakistan Acad. Sci.)

Research Grants

Title of research project	**Donor agency**	**Amount (RS/**Pkr **)**	**Duration**		
			From	**To**	
Characterization of laccase from halophilic archaeal strains isolated from halophytes (*Salsola stocksii* and *Atriplex amnicola*)	Higher Education Commission of Pakistan (HEC)	0.5 million	January 2019	December 2019	Principal investigator

Awards/Distinctions

- HEC's President Talent Forming Scholarship in B.Sc. (Hons) (2005-2008)
- 1st Division in the whole Academic Career
- Award of distinction for 2nd position in M. Phil. Biotechnology (2009-2011)
- HEC's travel award for 10th International PGPR Workshop at Liège, Belgium, June 16-19, 2015
- Student Travel Award for Rhizosphere 4, Maastricht, Netherlands (June 21-25, 2015)
- HEC-IRSIP fellowship (International Research Support Initiative Program) for University of California, Los Angeles, USA under the supervision of Prof Ann Hirsch (April 2017 to October 2017)
- Award of distinction for 1st PhD graduate in the history of Forman Christian College, Lahore

Trainings and Seminars

- A course on "Chemical Hygiene Plan" organized online by UCLA Worksafe (August 28, 2017)
- "Laboratory Safety Fundamentals" organized online by UCLA Worksafe (May 8-19, 2017)
- "International Workshop on Genomics and Genome Editing" jointly organized by FCCU, ECOSF and COMSTECH at FC College Lahore (May 24-27, 2016).
- First training workshop on "Molecular Diagnosis of Food-borne Pathogens" organized by FCCU, Lahore (April 22-25, 2013).
- First National training course on "Bacterial identification and Metagenomics", organized by NIBGE (March 5-9, 2012).
- First training workshop on "Bioinformatics Applications in Biotechnology for young Biotechnologists" organized by ISESCO held at FCCU, Lahore (December 9-11, 2011)

Academic Referees

Prof. Dr. Kauser A. Malik *H.I., S.I., T.I.* (PhD Supervisor)
HEC Recognized Distinguished National Professor,
Dean of Postgraduate studies, Forman Christian College (A Chartered University),
Ferozepur Road, Lahore 54600, Pakistan.
E-mail: kausermalik@fccollege.edu.pk
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Prof. Dr. Ann M. Hirsch (Supervise during IRSIP fellowship)
Professor, Molecular, Cell & Developmental Biology, UCLA
621 Charles Young Drive South, Los Angeles, CA 90095-1606 USA
Email: ahirsch@ucla.edu
Phone: +1-310-206-8673

Prof. Dr. M Sajjad Mirza (PhD Co-supervisor)
Deputy Chief Scientist,

Head, Soil and Environmental Biotechnology Division *(S&EBD)*,
National Institute for Biotechnology and Genetics Engineering (NIBGE), Jhang Road,
Faisalabad, Pakistan.
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Prof. Dr. Samina Mehnaz (PhD Co-supervisor)
Professor and Chairperson,
Humboldt Ambassador Scientist
AvH Fellow (Germany); NSERC Fellow (Canada)
IAEA Fellow (Belgium); Post Doctorate Fellow (USA)
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