

SALMA BIBI

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OBJECTIVES

My research interest centers on integrating agroecological practices with Geographic Information Systems (GIS). I analyze historical climate data to discern trends and patterns in extreme weather conditions. This involves utilizing climate models to forecast future alterations in weather extremes across varied emission scenarios. I am particularly interested in atmospheric processes, specifically atmospheric transport processes, aerosol-cloud interactions, and their influence on agroecosystem dynamics.

EDUCATION

PhD in Atmospheric Sciences, University of Houston, Houston, TX **2023-Present**

Honor:

1. Fully funded ‘**Teaching Assistantship**’ position
2. Dept. position in **3-minute thesis/dissertation** competition 2023
3. **The Eckhard Pfeiffer Alumni Scholarship 2024-2025**

M.S. in Molecular and Environmental Plant Sciences (MEPS) **August 2017**

Texas A&M University College Station, TX, USA

Honor:

1. ‘**Agriculture Innovation Program (AIP) scholarship year 2015-2017 funded by USAID, UC Davis**. A merit-based fully funded scholarship for my M.Phil. Degree led by CIMMYT (International Maize and Wheat Improvement Center).

B.S. in Biotechnology and Genetic Engineering **January 2014**

Dept. of Biotechnology and Genetic Engineering, The University of Agriculture Peshawar, Pakistan.

Honor:

1. **Highest percentage score (90.24%) batch 2010-2014**

DISTINCTION AND AWARDS

Fully Funded Teaching Assistantship **2023-Present**

Department of Earth and Atmospheric Sciences, University of Houston, Texas

NSMAA ‘The Eckhard Pfeiffer Alumni Scholarship **2024-2025**

University of Houston 3-Minute Thesis Competition NSM winner **Oct- 2023**

Agriculture Innovation Program (AIP) scholarship funded by USAID, UC Davis **2015-2017**

A merit-based fully funded scholarship for my M.Phil. Degree led by CIMMYT (International Maize and Wheat Improvement Center)

Tameer-e-Pakistan Talent Tribute Award by Study Aid Foundation **2012-2013**

A Merit-based Award for Academic Excellence.

2nd Annual Academic Award by School of Literacy Department **2004-2005**

The second position in the middle standard examination from the school of literacy department, district Peshawar, Pakistan.

RELEVANT COURSES

Quantitative: Experimental Designs in Agriculture, Atmospheric Data Analysis and Statistics, Data Analytics, Statistics

Atmospheric Sciences: Climate Change, Environmental Sciences, Atmospheric radiation, Atmospheric Physics, Aerosol and Climate

Biology: Principles of genetics, Biotechnology, Cell Biology, Biodiversity and conservation, Industrial biotechnology, Food biotechnology.

TECHNICAL SKILLS

Programming Languages/tools, R-Language, Python, Excel, LATEX, Overleaf

RESEARCH PROJECTS

- Remotely estimating the influence of epicuticular wax on plant health and water use efficiency. using the bloom and bloom-less Sorghum genotypes. In this project, I used hyperspectral images to monitor plant responses to drought and the spectral pigment indices for photosynthetic phenology. in different sorghum genotypes. (2015-2017)
- Heavy metal risk assessment in the drinking water quality of dist. Swabi, Pakistan, and the surrounding. (2021-2022)
- Ecological risk assessment of cadmium in drinking water in Swabi, Pakistan. (2021-2022)
- Water quality assessment of different villages in Mardan-Pakistan using remote sensing techniques. (2022-2023)

EXPERIENCE

- Teaching Assistantship** 05/2023-Present
Department of Earth and Atmospheric Sciences,
University of Houston, Texas, USA
- Science teacher for high school** 2022 -2023
Saint Mary's High School, Peshawar, Pakistan
- Lecturer Environmental Sciences**
University of Swabi, Pakistan 2017-2022
Responsible for academic-related activities (Teaching, research, and coordination with administration. Furthermore, I also worked as a semester coordinator for the Department of Environmental Sciences, where I actively helped undergraduate students in their studies, internships, projects, and research activities
- Graduate Research Assistant** 2015 - 2017
Molecular and Environmental Plant Sciences, Texas A&M University CS-USA
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PUBLICATIONS

- **Salma Bibi**, Asma Noshad, and Aamir Khan. Role of epicuticular wax in the regulation of plant growth and health as measured by spectral indices. *International Journal of Remote Sensing*, 42(9):3498–3510, 2021
- Asma Noshad, Mudassar Iqbal, Zafar Iqbal, Hamida Bibi, **Bibi, Salma**, HamidUllah Shah, et al. Aphidicidal potential of ethyl acetate extract from *Pleurotus ostreatus*. *Sarhad Journal of Agriculture*, 31(2), 2015
- Sattar, Rahib Hussain, Syed Mukarram Shah, **Bibi, Salma**, Sajid Rashid Ahmad, Asim Shahzad, Ahmad Zamir, Zahid Rauf, Asma Noshad, and Laeq Ahmad. Composition, impacts, and removal of liquid petroleum waste through bioremediation as an alternative clean-up technology: A review. *Heliyon*, page e11101, 2022

CONFERENCE PRESENTATIONS

- Conference paper titled “Antimicrobial and weedicide activities of organic Extract from different species of *Pleurotus* Mushrooms” NO (400-069-Y) in Plant Biology Conference in Minnesota, United States July 26-30, 2015.
- Conference Paper titled ‘Comparing the water-use efficiency of Bloom and bloomless Sorghum genotypes’ in 2016 ASA, CSSA SSSA international annual meeting in Phoenix, Arizona.

PROFESSIONAL TRAINING

Self-Assessment Report Writing Member for Environmental Sciences Dept. organized by Quality Enhancement Cell, University of Swabi-KP Pakistan	2017 - 2022
Impact of Agro-Chemicals on Human Health & Environment Organized by Dept. of Environmental Sciences, University of Swabi, KP Pakistan	Feb- 2018
McFadden Symposium/Winter Wheat Workers Workshop , San Antonio, Texas- USA.	April- 2016
Plant breeding symposium , Texas A & M University, College Station, USA.	Feb- 2016
Southern Associations of Agricultural Scientists (SAAS) San Antonio, Texas- USA.	Feb- 2016
Poster presentation in ‘American Society of Agronomy (ASA) Phoenix, Arizona, USA.	Nov-2016
High Throughput Plant Phenotyping (HTPP) and Unmanned Aerial Vehicles (UAVs) in Agriculture Texas, USA.	Aug-2015
Plant Biology conference by American Society of Plant Biologists in Minneapolis, Minnesota, USA.	July-2015
Use of R/QTL, MAGIC QTL population, and genomic Selection in plant breeding Texas, USA	Sep-2015
Internship Pakistan Council of Scientific & Industrial Research (PCSIR) Laboratories Complex Peshawar, Pakistan.	Jan-2014

SOCIAL ACTIVITIES

- **3-minute thesis/dissertation competition, Dept. of Earth and Atmospheric Sciences** **2023**
(Popular vote by audience)
- **Organizing Social, Environmental & Cultural Events in the University of Swabi** **2022**
Certificate of appreciation for organizing the event for the Department of Environmental Sciences, University of Swabi, Pakistan.
- **KAMYAB JAWAN SPORTS DRIVE by Government of Pakistan** **2021**
Certificate of Acknowledgment for valuable contribution in successfully conducting the event
- **Student's extra-curricular activities, University of Swabi, Pakistan** **2018**
Certificate of appreciation for arranging the extra-curricular activities for the Undergraduate Block, University of Swabi
- **Volunteer efforts** during the Plant Biology 2015 Annual Meeting, Minneapolis, Minnesota-USA **2015**
- **International week by Texas A&M University, College Station-USA** **2015**
- **Role of Agriculture in Economic Development of Pakistan**, The University of Agriculture Peshawar, Pakistan. **2013**
- **Transparency International Pakistan** (striving to make Pakistan a better country to live in) 11th Youth Governance (Ying), Pakistan **2013**
- Participated in declamation **contest on "CLIMATE CHANGE** by Khyber Grammar school, Warsak Road, Peshawar, Pakistan **2007**
- **ESSAY WRITING COMPETITION** (Second prize winner) Jinnah College for Women University of Peshawar-Pakistan **2007**

MEMBERSHIPS

1. Crop Science Society of America
2. Regular member of 'Board of Studies' Dept. of Environmental Sciences, The University of Swabi, Pakistan.
3. Member of 'Self-Assessment report-writing (SAR)' Dept. of Quality enhancement cell, University of Swabi-KP- Pakistan

COMMUNICATION

- English (Advanced level)
 - Urdu (Official language)
 - Pushto (Mother language)
 - Punjabi (Intermediate level Listening & Speaking)
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REFERENCES

1. Dr. Xun Jiang

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2. Professor Bernhard Rappenglueck

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