

Saima Khursheed
Curriculum Vitae
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Professional Preparation

- **Post-doctoral Research Associate, Biological & Agricultural Engr., Texas A&M Agri Life Research & Extension. September 2015-Oct 2018.**
- **PhD (Soil and Crop Science) - (SKUAST) SK University of Agriculture Sciences & Technology, Srinagar –India (Oct 2008 - April 2012).**
Primary emphasis was on Phosphorus Management in Rice soils using various ORGANIC MANURES, PHOSPHOROUS being most important nutrient for crop production next to nitrogen.
- **Master of Science (Soil Science and Agriculture chemistry), SK University of Agriculture sciences & Technology, Jammu-India (Oct. 2004 to July 2006).**
Primary emphasis was “Effect of different organic manures on Carbon enrichment in typical inceptions of Jammu region” viz estimate different soil carbon pools like –Soil microbial biomass; water soluble organic carbon (WSOC) Organic Carbon., Labile carbon, Soil microbial biomass carbon; Soil microbial biomass nitrogen; Soil microbial biomass Phosphorus; Enzyme activities.
- **Bachelor (Agriculture Science), B. R. Ambedkar University, Agra UP, India (March 1996 - Dec 2000).**

Appointments:

- 1) **Site Manager- (IPSS Funded Urban Agriculture Program at UNTD). September-28th-2021-Present).**
 - As a Site Manager at UNTD for urban agriculture program to interact with leaders from UNT, Agriculture organizations, academics including government agencies like USDA NRCS, Texas A&M.
 - Managing GreenHouse, student service, and community outreach including collaborative relationships with community gardeners and other urban agriculture entities.
- Developing collaborative community partnerships, workshop, building, maintaining, and supervising a broad-based student internship program with Texas A&M, USDA NRCS, Texas Watershed Management.

**2) October 2019 –present Adjunct Prof. University of North Texas at Dallas.
Asan Adjunct Prof. I teach below courses at UNT face to face, hybrid &
Onlineclasses.**

- **AGRI & BIOL 3306 SOIL SCIENCE**

The course explores the basic principles of soil science and soil ecology, including Description: human and environmental influences and related theoretical and practical application of principles to agricultural production. Soil utilization, management, enhancement, economics and other concepts will be explored.

- **AGRI & BIOL4310-AnimalPhysiology**

The course explores the basic principles of animal physiology, including the associated basic principles of animal anatomy and environmental influences on physiology. We will discuss species variety,classification, and biogeographic relationship with physiology as well as histology and nutrition.

- **GEOG 1710 SECTION 004 - EARTH SCIENCE**

Principles and processes of physical geography. Introduction to mapping, weather and climate, soil and vegetation, and landforms of rivers, coasts, and deserts. Natural sciences and the interrelationships which includes skills required to explore and test ideas in the areas included within earth science and ability to read intelligently and write clearly on the topics within earth science including Labs.

- **BIOL3312- Animal Nutrition**

This is a course designed to introduce the study of animal nutrition. Topics include the nutrition of companion animals, livestock, and exotics. Topics will also include the anatomy, physiology and biochemistry, nutrient procurement and use, metabolic diseases, and diet therapy.

- **BIOL3310-003/005 Human Nutrition (Biology Science)**

Principles of human nutrition including digestion and absorption of macronutrients, role of vitamins and minerals, energy metabolism, nutrition assessment, diet planning, food safety and life span nutrition. Emphasis on food choices that promote health and prevent diet-related diseases includes Labs.

- **BIOL1132-003/005 Environmental Science**

Interdisciplinary approach to understanding basic concepts in environmental science including scientific thought, biodiversity, resource management, pollution, global climate change, resource consumption and population growth. Emphasis on how these concepts affect and are affected by human society includes Labs.

**2.) September 2015 – Oct 2018 Post-doctoral Research Associate, Biological
&Agricultural Engr., Texas A&M Agri Life Research & Extension.**

- Worked on (BMP) Best Management Practice for Storm water Management, Rain Gardens for Storm water Management and understanding various Microbial processes for removal of E. COLI and other pollutants from Storm Water in bio retention cell using BIOCHAR and Mushroom Fungus.

- Green Roof , Rainwater Harvesting and Detention Pond, Wetlands ,stream water restoration Etc. Soil and Environmental, Consulting, proactively involved with environmental sustainability and ecology, Worked with Ranchers to use Best management practices (BMP's) that describe ways to manage their land or their activities to reduce or prevent *pollution of surface and groundwater that include agriculture BMP's, Urban BMP's. Mentoring undergraduate and graduate student to complete their project work.*

**3.) September 2015– Dec 2017 DCCCD Richland College Dallas
Texas Adjunct Professor Environmental science Richland College.**

- Worked as an adjunct faculty for ENVR-1401 & 1402 at Richland College. The main Focus is on current global concerns which include global warming, overpopulation, deforestation, pollution, biodiversity and resource use. Practical laboratory experience emphasizes the application of fundamental principles of biology, chemistry and geology as well as critical thinking and analysis. Focus on energy issues, global population rise, land use, sustainability, conservation and management, deforestation, biodiversity, the history of environmental law and regulation and local environmental problems.

4.) August 2013– December 2015 Soil Scientist USDA-NRCS CNTSC Fort Worth Texas.

Worked as an advisor Soil and Natural Resource Scientist at USDA-NRCS Central national technology support center Fort Worth TX Helped them with natural resource, soil and Environmental science related projects including Soil and environmental awareness programs to safe agriculture and food handling practices through education and awareness campaigns. Involved with farmers and Ranchers to make sure they receive critical Soil, Environmental information through USDA programs. Also, supporting USDA-NRCS FORTWORTH TX tremendously through public awareness efforts, including conferences, trainings, provide information on Soil and Environmental science. Educating farmers and ranchers about adopting various techniques to sequester carbon in soils like use of organic manures, cover cropping, mulching and no till.

5.) March 2009-March 2012 Teaching Assistant, Soil Science and Agriculture chemistry Dept., SKUAST Shalimar Kashmir India.

6.) April 2007 – Sep 2008. Agriculture Extension Officer, Dept. of Agriculture Kashmir, India.

7.) April 2002- June-2004) Research Assistant, SKUAST, Shalimar Kashmir. Microbial Technology for Rehabilitation of Fir and Spruce Seedlings on

degraded sites. The project was funded by Ministry of Environment and Forests Govt. of India.

- Primary emphasis was on Soil Microbiology which included bioremediation studies (plastic and Pesticides), soil and water testing, Media preparation like nutrient agar, Ashby's medium, Potato dextrose agar kings B medium etc. Isolation, characterization, identification and maintenance of bacteria and fungi, Screening and selection of suitable fungal bio control agents against pathogens.
- α. Improvement of different media for long time preservation of microbial agents as commercial use and Identification and selection of potential microbes as bio control aspects.

Publications

- 1 Zargar, M.Y., Khan, M.A., Mushtaq Ahmad and Saima Khursheed, (2005). *Effect of inoculation of pseudomonas on the growth and development of Fir and Spruce Seedlings*. Vol 45, No 4, p 313-316, Indian Jor. Of Microbiology.
- 2 Saima khursheed, Sanjay Arora and Tahir Ali.(2013)Effect of Organic Sources of Nitrogen on Rice (**oryza sativa**) and Soil Carbon Pools in Inceptisols of Jammu. Vol.1,P 17-21,**International Journal of Environmental pollution and Solutions. Columbia International Publishing.**
- 3 Zargar, M.Y., Khan, M.A., Khurshed, A., Mir, I.A. and Saima Khursheed. 2005. *Impact of degradation on physicochemical characteristics and microbial status of forest soils dominated by fir and spruce*. Asian Jr. of Microbiology. Biotech. Env. Sc. 7(1): 45-48.
- 4 Saima Khursheed, Sanjay Arora and Jalali, V.K. (2011). *Soil Carbon Enrichment for sustaining paddy yield in Jammu*. Soil Conservation Society of India.
- 5 Saima Khursheed, Sanjay Arora. (2011). *Biochemical Changes in Soil as influenced by application of organic manures*. Soil Conservation Society of India.
- 6 Khursheed S (2016) Soil Biodiversity and Climate Change. Adv. Plants Agric Res 3(5): 00113
- 7 Khursheed S, Simmons C, Jaber F (2016) “Glomalin” a Key to Locking Up Soil Carbon. Adv. Plants Agric Res 4(1): 00126.

vi) Collaborators and Other Affiliations

- α. Fouad H. Jaber Associate Professor and Water Resources Extension Specialist Biological and Agricultural Engineering Department Texas A&M AgriLife.
- β. Cheryl Simmons (USDA-NRCS Fort Worth Texas), Rafael Guerrero (USDA-NRCS Fort worth Texas), Dr Mohammad Yousuf zargar (Director Research SKUAST Shalimar Kashmir India), David Buland (USDA-NRCS Fort Worth Texas).

vii) Masters and PhD Advisors

- α. Dr. Sanjay Arora Senior Scientist central soil salinity research Karnal

Research Centre and Dr. Tahir Ali, Head Dept. of Soil science SKUAST
Shalimar Kashmir India.

Awards:

- Merit Scholarship from SKUAST Jammu India.
- Student Incentive Award from Soil Conservation Society of India.

Membership:

- Soil and Water Conservation Society
- Soil Science Society of America.
- Crop Science Society of America.
- American Society of Agronomy.
- Member Global soil biodiversity initiative (GSBI)
- NWIAA (Advisory Board for National Women In Agriculture Association)

Technical Skills:

- SaaS Software as a Service for Data Analysis, Statistical Analysis, ArcGIS 10.3, ESRI Training and certification and GPS usage on fields.
- Completed Three (3) months training program on Agribusiness and Agri clinics Manage, Department of Agriculture, Hyderabad, India (2010).
- SaaS 9.4, R-Software, *Minitab Statistical Software's* R&R tools.
- Data Analysis using EXCEL, Microsoft office, MS-Word, Excel, Power Point.

Research Focus

- Research focus on **microbe-soil-plant** interactions, studying the rhizosphere dynamics to improve the economic and environmental benefits of soil resources. Some of the research goals of my projects are to identify soil management techniques for reducing soil inputs, improve biodiversity, Different techniques for improving soil carbon dynamics, capture and reduce greenhouse gas emissions. I apply biogeochemical analysis and systems biology tools to measure some of the microbial networks and their influence on biogeochemical cycles. Use of mycorrhizal fungi for moving carbon into soil .Other areas of interest includes bioremediation of heavy metal contamination and acid soil management. Isolated different kinds of plant growth promoting rhizobacteria using various culture media.
- Systems approach with an emphasis on efficient water saving strategies and sustainable crop production methods, while maintaining the environmental quality in the semi-arid environments. Scope and applications of my research include

improving the existing cropping systems by introducing cover crops, leguminous, and biofuel crops to investigate the effects on water use efficiency, nutrient recycling, residue management, and soil quality. Tillage systems, crop rotation, alternate crops/cropping systems, and manure management are some of my research interest areas.