



**Maryam
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Date of birth: 28/11/1991

Nationality: Pakistani

Gender: Female

CONTACT



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WORK EXPERIENCE

01/09/2016 – 28/02/2017 – Islamabad, Pakistan

Research Assistantship for Winter Fog Project

National University of Sciences and Technology

Learning Experience

AOD (Aerosol Optical Depth), ATL (Aerosol Type Land), NO₂ Concentrations, Winter Fog and Smog Monitoring, urban Air Quality Parameters, GIS & Remote Sensing, R studio, Scientific Report Writing
Islamabad, Pakistan

01/09/2014 – 31/12/2014 – Pakistan

Laboratory Assistant

Sustainable Development Study Center (SDSC, GCUL)

Responsibilities

Water Quality Testing for Commercial Units (Etihad Sugar Mills & Shakarganj Mills), Conducting Experiments & Maintenance of Laboratory Equipments

01/05/2019 – 30/08/2019 – Islamabad, Pakistan

Survey enumerator

Glow Consultants (Private) Limited

Learning Exposure

- Questionnaire designs for underprivileged social groups (Women and Children)
- Dealing with village representatives and other focused groups
- Convincing village women to participate in the surveys/ interviews/focused group discussion

EDUCATION AND TRAINING

07/09/2015 – 08/11/2018 – Islamabad, Pakistan

Master of Science - Environmental Science

National University of Sciences and Technology (NUST)

Occupational Skills

Climate Change, Aerosol monitoring, Satellite Data sets, Environmental Impact Assessment, Risk Evaluation, Sustainable Futures, Analytical Techniques, Remote Sensing and GIS, R Programming,

Field(s) of study

- Environmental Chemistry

3.70/4 | EQF level 7 | <https://nust.edu.pk/>

01/09/2010 – 31/08/2014 – Lahore, Pakistan

Bachelors of Science in Environmental Science

Government College University Lahore (GCUL)

Occupational Skills

Water Quality and Pricing, Environmental Auditing, Impact Evaluation Surveys, EIA of commercial and government businesses/buildings/ properties

Field(s) of study

- Environmental Science

3.20/4 | <https://gcu.edu.pk/>

LANGUAGE SKILLS

OTHER LANGUAGE(S):

English

Listening
C2

Reading
C2

**Spoken
production**
C2

**Spoken
interaction**
C2

Writing
C1

PUBLICATIONS

Publications

- **M, Sarfraz** and M.F. Khokhar, Spatio-Temporal and Seasonal Analysis of NO₂ over south Asia using Ozone Monitoring Instrument from 2004 to 2020 (In process) in **Environmental Science and Pollution Research**
- Sarfraz M. (2021) **Green Technologies to Combat Air Pollution**. In: Tiwari S., Saxena P. (eds) Air Pollution and Its Complications. Springer Atmospheric Sciences. Springer, Cham. https://doi.org/10.1007/978-3-030-70509-1_9

RECOMMENDATIONS

- Professor Dr. Alfred Wiedensohler – Head of the Department (Leibniz Institute for Tropospheric Research) – alfred.wiedensohler@tropos.de – (+49) 34127177062
Research advisor from the past three years.
- Dr Muhammad Arshad – Associate Professor (National University of Sciences and Technology) – marshad@iese.nust.edu.pk – (+92) 3325523665
Course instructor and Research Advisor
- Dr Abdullah Yasar – Professor (Government College University Lahore) – yasar.abdullah@gmail.com – (+92) 3004293718
Academic Instructor and Research Supervisor

HONOURS AND AWARDS

02/05/2017

Fully Funded Bursary for Poster Presentation at Workshop and Participation in Training School- 2nd Atmospheric Composition and Asian Monsoon – National Aeronautics and Space Administration

19/12/2013

3rd Prize Winner at Science Competition - Eco-Sustainable Science Fair conducted by Sustainable Development Study Center – Government College University Lahore

VOLUNTEERING

01/04/2019 – 15/03/2020

Street School Teacher at Master Ayub School

Islamabad

Taught English and Science subjects to matriculation students, Therapy Sessions with Kids, Convincing Parents for Child Education

RESEARCH TRAININGS

12/07/2021 – 16/07/2021

2021 Virtual International Training Workshop on Earth Observations for Sustainable Development in Developing Countries

Focusing on the regional Sustainable Development Goals in 2021, such as "drought early warning (SDG 2), climate change (SDG 13), land cover monitoring (SDG 15)"

EO Data Processing and Applications, Greenhouse Gas Monitoring, Early Warning System

10/06/2017 – 12/06/2017

2nd ACAM Training School- "Observations and Modelling of Atmospheric Chemistry and Aerosols in the Monsoon Region" SPARC/IGAC jointly sponsored activity

Introduction to CCMI and Satellite Remote Sensing of Atmospheric Composition

Basic training on Regional Scale Chemistry Modelling

Advanced pieces of training on Aerosol-Radiation Remote Sensing

01/08/2016 – 12/08/2016

Research and Laboratory Orientation Training comprising of 30 hours-National University of Sciences and Technology Islamabad, Pakistan

Environmental Analytical Techniques, Research Methodologies, PM Sampler Handling

12/07/2021 – 13/07/2021

Introduction to Satellite Radar Altimetry: Basic concepts and theories

Satellite Radar Altimetry, Remote Sensing Techniques, Sentinel 3A/3B Data Processing

01/11/2020 – 28/02/2021

Training on Introduction to Coding for Beginners

Inducted by Collaboration of Prime Minister's National Youth Development Program and United Nations Development Program

Python Coding, Python for Environmental Science, Natural Resource Management, Tracking Climate Change

18/08/2021 – 26/08/2021

Bringing meaning to statistical practice in climate science using R

key statistical concepts in environmental science, and hands-on experience in the use of statistical methods for weather and climate data analysis using R

13/09/2021 – 17/09/2021

Capacity Development Program on Air Quality Management and Emission Reduction of PM_{2.5} for Asian Countries

Air Quality Monitoring, Air Quality Modelling Overview, Atmospheric Chemical Transport Model

ACADEMIC THESIS WORK

● **Master Thesis - Satellite Observations of NO₂ over South Asia using Ozone Monitoring Instrument (2004-2017)**

Mapping out the Concentrations of Nitrogen Dioxide (NO₂) over Southasian region by using Ozone Monitoring Instrument, R studio, ENVI, and ArcGIS

Source Apportionment with help of ground-based emission inventories EDGAR and MACCity, Hotspots identification with the help of R Studio

● **BS (Hons) Thesis - Effect of low water pricing on the irrigation water quality, availability, and infrastructure.**

Physico-Chemical Analysis of Canal Water, Socioeconomic Survey, Canal Water Pricing evaluation

Collaboration with Punjab Irrigation Department for the Sustainable Water Solutions in the tail ends users of Canal Water Supply.

CONFERENCES AND SEMINARS

05/06/2017 – 09/06/2017

● **Third Workshop on Atmospheric Composition and Asian Monsoon (ACAM)**

Presented a poster - "Spatio-temporal and seasonal analysis of NO₂ over Pakistan using ozone monitoring instruments (2004-2016) at Jinan University Guangzhou, China"

18/12/2017 – 20/12/2017

● **International Science-Policy Conference on Climate Change in Pakistan**

Sharing of knowledge and best practices on adaptation strategies, including capacity building of national institutions and experts

Promoting coordination among researchers and institutions working on different aspects of climate change in Pakistan and facilitating their collaboration with international scientists

10/06/2017 – 12/06/2017

● **Science and Communication Café at Jinan University, Guangzhou, China**

Lead Activities

Communicating science with the general public, Methods for effectively translating Research Findings, creating a "Science Elevator Speech"

PROGRAMMING EXPERTISES/RESEARCH TOOLS/ SOFTWARE

● **Satellite Data Processing Techniques**

Google Earth Engine, ArcGIS, QGIS, R, Python, OMI, MODIS, Giovanni, SPIRITS, ENVI, Adobe Photoshop & Illustrator

MOOCS AND FURTHER EDUCATION

● **Climate Change from Learning to Action (2020)**

United Nations Climate Change E-Course

(1)Climate Change Pledge, project and Policy, (2)Climate Adaptation and Mitigation (3)Climate Change Negotiations Works

● **Climate Change and Health: From Science to Action (2021)**

Specialization offered by Yale School of Public Health on Coursera Platform

(1)Climate Change and Health, (2) Climate Adaptation for Human Health, (3) Communicating Climate Change and Health

● **Air Quality Management (2021)**

World Bank Group (Open Learning Campus)

(1) Air Monitoring Techniques, (2) Learning for Developing Countries, (3) Pollution Control Strategies

● **Python Programming for everybody (2021)**

Specialization offered by the University of Michigan on Coursera Platform

(1)Programming for Everybody (Getting Started with Python), (2)Python Data Structures, (3)

Using Python to Access Web Data, (4)Using Databases with Python, (5)Capstone: Retrieving, Processing, and Visualizing Data with Python

● **Introduction to Remote Sensing (2020)**

Course offered by Geo University (The online platform to learn GIS and Earth Observation)

Remote Sensing Applications, Agricultural and Atmospheric Monitoring, Role of RS in Commercial Projects

● **Report Writing at University and in the Workplace (2021)**

Course offered by Coventry University on Future Learn Platform
Writing Styles, Academic Reports, Business Report Formats

● **GIS, Mapping, and Spatial Analysis Specialization (Continued)**

Course offered by University of Toronto on Coursera Platform
GIS Tools, Mapping Technique, Geospatial Analysis