

# BILAL MUHAMMAD ISMAIL

Lecturer | Ph.D. Student | Civil Engineering Technologist  
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A 'Researcher' seeking for becoming a part of team that is striving for result-oriented research and development of novel technology specifically in 'Geotechnical Engineering'.

## APPLIED FOR

## TEACHING EXPERIENCE

### Lecturer

Feb, 2025 – Present

Department of Technology, Indus University Karachi, Pakistan.

#### Taught Courses:

Soil Mechanics

Geotechnical Site Investigation and Foundations

Geology

Ground Improvement Techniques

#### Project Supervision:

- i. Experimental, Microstructural (SEM & XRD) and Numerical Study (PLAXIS) on Flood-Resilient Foundation using Biopolymer-Stabilized Recycled Concrete Aggregate (RCA) – Proposal phase
- ii. Flood-Resilient Subgrade using Hybrid RCA and Biochar stabilized subgrade: Experimental, Microstructural (SEM & XRD) and Numerical Analysis (PLAXIS) – Proposal phase

#### Additional Duties:

- i. Reviewer of Conference on Sustainability Innovation in Computing, Engineering and Technology (CSICET) held at Indus University main campus on 6-7 Jan, 2026
- ii. Developed and delivered OBE-compliant undergraduate theoretical and lab courses with integration of CLO/PLO mapping, OEL, PBL and assessment rubrics
- iii. Focal Person (Research Committee) from Department of Technology
- iv. Final Year Project (FYP) Supervisor
- v. Lab In-charge of Soil Mechanics lab
- vi. Provided academic counseling, mentoring and career guidance to students
- vii. Participation in workshops, trainings and capacity building
- viii. Use of Campus Management System (CMS) for the semester progress

### Lecturer

March, 2023 – Jan, 2025

Department of Technology, Abasyn University Islamabad, Pakistan.

#### Taught Courses:

Soil Mechanics

Foundations Engineering

Environmental Management

Geology and Earthquake Engineering

#### Projects Supervision:

- i. Investigation of Clayey Soil Stabilized with Plastic Waste (PW)
- ii. Influence of Fine Contents (FC) on Engineering Properties of Soil
- iii. Effect of Aluminum Powder Waste (APW) on properties of Clayey Soil
- iv. Investigation for Replacement of River Sand by Waste Foundry Sand in Paver Blocks

### **Additional Duties:**

- i. Member of Industrial Liaison and Placement Cell (ILPC) from Department of Technology
- ii. Member of Board of Studies (BoS) of Civil Engineering Technology (CET) program
- iii. Management of National Technology Council (NTC) Accreditation Visit, 2024
- iv. Preparation of Self-Assessment Report (SAR), 2024
- v. Developed and delivered OBE-compliant undergraduate theoretical and lab courses with integration of CLO/PLO mapping, OEL, PBL and assessment rubrics
- vi. Head Coordinator of Department of Technology
- vii. Final Year Project (FYP) Supervisor
- viii. Lab In-charge of Soil Mechanics lab
- ix. Spring-2022 Batch Advisor
- x. Participation in workshops, trainings and capacity building

### **Lecturer**

**August, 2021 – July, 2023**

Department of Technology, ISRA University Islamabad, Pakistan

### **Taught Courses:**

Soil Mechanics

Foundations Engineering

Environmental Management

Geology and Earthquake Engineering

### **Projects Supervision:**

- i. Investigation of expansive Soil Stabilized with Sugarcane Straw Ash (SSA)
- ii. Soil Investigation and Comparison of Rawalakot, Rawalpindi and Islamabad
- iii. Comparison of Liquid Limit of Clayey soil with Casagrande Method and Fall Cone Method
- iv. Assessment & Comparison of Drinking Water Quality of Twin Cities with WHO standards

### **Additional Duties:**

- i. Member of Industrial Liaison Office (ILO) from Department of Technology
- ii. Management of National Technology Council (NTC) Accreditation Visit, 2022
- iii. Preparation of Self-Assessment Report (SAR), 2022
- iv. Final Year Project (FYP) Supervisor
- v. Supervised Industrial Training (SIT) Coordinator
- vi. Paper moderation for entry test of Civil Engineering Technology (CET) program
- vii. Developed and delivered OBE-compliant undergraduate theoretical and lab courses with integration of CLO/PLO mapping, OEL, PBL and assessment rubrics
- viii. Participation in workshops, trainings and capacity building

### **Instructor**

**November, 2020 – May, 2022**

Department of Civil Technology, Rawalpindi Polytechnic Institute (RPI) Rawalpindi, Pakistan

### **Taught Courses:**

Soil Mechanics

Environmental Health and Safety

### **Projects Supervision:**

- i. Investigation of Atterberg's limits of a soil of Rawalpindi
- ii. Determination of moisture content of a soil of Islamabad with ODM & SPM
- iii. Establishment of Compaction Curves (i.e. SPT and MPT) for soil of Islamabad
- iv. Establishment of Particle-size distribution curve for soil sample of Rawalpindi

### **Additional Duties:**

- i. Member of Industrial Liaison Office (ILO) from Department of Technology
- ii. Management of Punjab Board of Technical Education (PBTE), Lahore - Visit, 2021
- iii. Final Year Project (FYP) In-Charge
- iv. Soil Mechanics Lab In-Charge

## GENERAL EXPERIENCE

### Head Coordinator

March, 2023 – Jan, 2025

Department of Technology, Abasyn University Islamabad, Pakistan.

#### Administrative Duties:

- Scheduling Departmental Activities
- Communication among programs coordinators, faculty members, other departments & main campus
- Record Keeping
- Documentation

#### Academic Duties:

- Semester Registrations
- Students Advisory Support
- Coordination and communication among faculty members and students

### Internee

July, 2017 – June, 2018

Pakistan Council of Research in Water Resources (PCRWR) Islamabad, Pakistan

#### Laboratory tests on soil samples;

Soil moisture retention curve, textural analysis, organic matter, sieve analysis and chemical extract for chemical analysis of soil sample.

#### On-field tests;

Soil sample collection, infiltration test, resistivity Survey and determining seepage rate in river.

**Detailed reports** by using collected information, coordinates of sites, excel sheets, snaps and graphs

- **Total sites visited** 100 (50 on left and 50 on right side of each site)
- **Samples collected** 1500 on land / 1000 from river bed
- **Laboratory tests** 5 on each sample of land / one on each sample of river bed
- **Field tests** 3 on both sides of site
- **Detailed reports** 50 (one of each site)

### Internee Engineer

August, 2017 – November, 2017

Islamabad Metro Bus Project, National Highway Authority Islamabad, Pakistan

#### Project Phase-II

- Inspection of components of structure and construction activities like rigid pavement, breast wall, trench, underpass, concrete piles, beams, columns and slab, piling by auger boring, concreting by Concrete Pumping Machine, examine working drawings etc.

## EDUCATION

### Ph.D. Civil Engineering (Continue)

Jan, 2025 – Present

Ziauddin University, Karachi, Pakistan.

#### Independent Research Study - 01 Title:

Mechanical and Microstructural Analysis of Sustainable Binary Blends of Industrial By-Products (IBPs) for Soil Stabilization in Coastal Area – SEM & XRD in process

#### Independent Research Study - 02 Title:

Mechanical and Numerical Analysis of Sustainable Binary Blends of Industrial By-Products (IBPs) for Soil Stabilization in Coastal Area – PLAXIS in process

**MS Civil Engineering Technology (Course Work)** 2018 – 2020  
Sarhad University of Science and Information Technology (SUIT) Peshawar, Pakistan  
CGPA 3.92/4

**B-Tech (Honours) Civil Technology** 2012 – 2016  
Sarhad University of Science and Information Technology (SUIT) Peshawar, Pakistan  
CGPA 3.22/4

**Final Year Project:** Investigation of three major types of cement i.e. Ordinary Portland Cement, Sulphate Resisting Cement and Rapid Hardening Cement.

**DAE Civil Technology** 2009 – 2012  
Rawalpindi Polytechnic Institute, Rawalpindi; Punjab Board of Technical Education Lahore, Pakistan  
69% - Grade B

## HONORS AND AWARDS

**Shield of Appreciation** December, 2024  
By Abasyn University, Islamabad Campus on contributions for the Department of Technology

**Cash Prizes** 2018 - 2020  
Four cash prizes (one in each semester) on achieving highest SGPA in MS Civil Engineering Technology from Sarhad University, Peshawar, Pakistan.

**Certificate of Participation** June, 2017  
2017 International Essay Contest for Young People under GOI Peace Foundation, Tokyo, Japan with the collaboration of United Nations Educational, Scientific and Cultural Organization (UNESCO)

- Registration No. A02824000

**Certificate of Appreciation** January, 2017  
By COMWAVE Institute, Islamabad on acquiring highest SGPA of 3.89 in Bachelor of Civil Technology

## PROFESSIONAL MEMBERSHIPS

**Society Student Member** July, 2025  
American Society of Civil Engineers (ASCE)

- Credential ID: 000012559293

**Graduate Engineering Technologist** July, 2018  
Life-Time registration in National Register of Technologists, Pakistan

- Registration No: Eng.Tech/Civil/00056

## CERTIFICATIONS

**Academic Research Process – Online** June, 2025  
Elsevier Researcher Academy

**Freelancing – 3 Months** August, 2020  
Digi-Skills & Virtual University, Ministry of Information Technology and Telecom, Pakistan

**Structural Analysis and Design – 7 Days** March, 2018  
Build-Tech Consultants, Islamabad, Pakistan

## AutoCAD – 2 Months

Skill Development Council Islamabad, Pakistan

January, 2018

## Special Diploma in English – 5 Months

National University of Modern Languages (NUML) Islamabad, Pakistan

June, 2017

## Information Technology Diploma – 300 hrs.

Joher Institute of Information Technology (JIIT) Islamabad, Pakistan

June, 2009

## PROFESSIONAL DEVELOPMENT

### Webinars

**1. Role of AI in Open Access Publishing (Aug 13, 2025)**

Organizer: Wiley Research Training

Sponsor: John Wiley & Sons

**2. Deep Foundations: Types and Testing Methods Structural Integrity and Geotechnical Load Bearing Capacity Evaluations (July 24, 2025)**

Organizer: Gulf Geotechnical Engineers (GGE) Platform

Sponsor: Pile Dynamics, Inc. and GRL Engineers, Inc.

**3. Numerical Methods in Civil & Ground Engineering (Jan 15, 2026)**

Organizer: Gulf Geotechnical Engineers (GGE) Platform

## COMPUTER SKILLS

MS Office Suite

Reference Managers

AutoCAD 2D

PLAXIS

MATLAB

Scanning Electron Microscopy (SEM)

X-Ray Diffraction (XRD)

## RESEARCH INTRESTS

Sustainable Soil Stabilization

Geotechnical Material Characterization

Computational Modeling in Geotech

AI/ML Applications in Geotech

## LANGUAGE SKILLS

### Languages:

Sindhi

(Mother Tongue)

Urdu

(Reading, Writing and Speaking)

English

(Reading, Writing and Speaking)

## REFERENCES

Will be provided when required.