DR. SALMAN FAROOQ

PERSONAL

Name:	Dr. Salman Farooq
Date of Birth	12-06-1987
CNIC	35202-2260186-1
Nationality	Pakistani
Address	Institute of Geology, University of the Punjab Quaid-e-Azam Campus, Lahore, Pakistan
Contact	Cell: +92 321 8862006 Tel. +92 42 99231267 E-mail: salman.geo@pu.edu.pk Orcid: https://orcid.org/0000-0002-8186-6927

PROFESSIONAL SUMMARY

Accomplished Assistant Professor at Institute of Geology, University of the Punjab with over 15 years of experience in academia and industry. Expertise in geological hazard assessment, geotechnical engineering, sustainable resource management, rock and soil mechanics. Proven track record in research, teaching, and industry consulting, delivering innovative solutions for complex geological challenges. Coordinated seminars / technical workshops on slope stability and GIS applications. Published author with numerous peer-reviewed articles and a passion for mentoring the next generation of geoscientists. Adept at integrating academic theory with practical applications to address complex geological challenges.

EDUCATION

Ph.D. in Geology
Institute of Geology, University of the Punjab, Lahore, Pakistan, 2021.

M.Phil in Geology
Institute of Geology, University of the Punjab, Lahore, Pakistan, 2012.

B.S in Applied Geology
Institute of Geology, University of the Punjab, Lahore, Pakistan, 2010.

PROFESSIONAL AFFILIATIONS / MEMBERSHIPS

- Association for Engineering Geology Pakistan - **Treasurer**
- International Association for Engineering Geology (IAEG) – Member
- International Society of Rock Mechanics (ISRM), - Member
- Pakistan Geotechnical Engineering Society - Member
- Punjab Geological Society, Pakistan (PGS) - Member

PROFESSIONAL TRAININGS AND CONFERENCES

Name & Place	Type of training	Attended Date
16th International Conference on Geotechnical Engineering (16ICGE), UET, Lahore, Pakistan	Conference	December 7-8, 2022
15th International Conference on Geotechnical Engineering, University of Engineering & Technology (UET) Lahore, Pakistan , Lahore	Conference	December 5-7, 2019
International Conference on New Challenges In Geotechnical Engineering, ICNCGE-2017, FAST National University, Pakistan , Lahore	Conference	January 23-24 2017
"Preparation of Geological Maps in GIS Environment: GIS as a Tool for Geologists" Institute of Geology, University of the Punjab, Lahore, Pakistan	Professional Short Course	January 25-29, 2016
"Mixed Methods Research using SPSS & NVIVO software" Office of Research, Innovation and Commercialization (ORIC), University of the Punjab, Lahore, Pakistan	Professional Short Course	November 21-23, 2013
"Applied Numerical Methods with MATLAB" Institute of Geology, University of the Punjab, Lahore, Pakistan	Professional Short Course	March 11-15, 2013
13th National Conference on Geotechnical Engineering, Wapda House, Auditorium, Pakistan , Lahore	Conference	March 14-15, 2013
Introduction to well-logging techniques and basic log interpretation (Schlumberger), held at Institute of Geology, University of the Punjab, Lahore, Pakistan	Professional Short course	May 25, 2010

CONDCUTED SEMINARS/ WORKSHOPS / CONFERENCES

Name & Place	Role	Date
8th Pakistan Geological Congress, Institute of Geology, University of the Punjab, Lahore, Pakistan	Organizer	February 9-11, 2023
7th Pakistan Geological Congress (PGC), Institute of Geology, University of the Punjab, Lahore, Pakistan	Organizer	March 16-18, 2022
6th Pakistan Geological Congress (PGC-21), Institute of Geology, University of the Punjab, Lahore, Pakistan	Organizer	March 26-27, 2021
Conducted 5-days course on Preparation of Geological Maps in GIS, Institute of Geology, University of the Punjab, Lahore, Pakistan	Conducted	January 25-29, 2016

AWARDS AND DISTINCTIONS

- Quaid-e-Azam gold medal award 2014, Tehrek-e-Istehkam Pakistan Council
- 1st Position and Gold Medal in M.Phil Geology, 2012
- Browns medal in all Pakistan under 16 swimming championship held at Islamabad, 2003.

EXPERIENCE RECORD

1. ASSISTANT PROFESSOR

Institute of Geology, University of The Punjab, Lahore, Pakistan. | May 2022 to present

- HEC Approved Supervisor for M.Phil & PhD (Geology)
- Supervise M.Phil and B.S research thesis on slope stability, rock mechanics, and earthquake risk mitigation.
- Secured research grants from national and international agencies.
- Organized workshops and symposia on applied geology for academic and industry professionals.

Teaching Areas (Post and Undergraduate)

- Engineering Geology
- Soil Mechanics
- Rock Mechanics
- Geohydrology

Other Engagements

- Incharge, Groundwater and Hydrology Laboratory, Institute of Geology
- Member of Conference and Seminar Committee, Institute of Geology
- Member of Disciplinary Committee, Institute of Geology
- Member of Sports Committee, Institute of Geology
- Organized annual Sports, Institute of Geology

2. LECTURER

Institute of Geology, University of The Punjab, Lahore, Pakistan. | May 2013 to May 2022

- Supervise M.Phil and B.S research thesis on slope stability, rock mechanics, and soil mechanics.
- Secured research grants from national and international agencies.
- Organized workshops and symposia on applied geology for academic and industry professionals.

Teaching Areas (Post and Undergraduate)

- Engineering Geology
- Soil Mechanics
- Rock Mechanics
- Geohydrology

Other Engagements

- Member of Conference and Seminar Committee, Institute of Geology
- Member of Sports Committee, Institute of Geology
- Conducted post-earthquake visit for slope instability along KKH in 2016
- Organized annual Sports, Institute of Geology

3. GEOLOGIST

GeoConsult Associates, Lahore, Pakistan. | May 2012 to April 2013

Responsibilities:

- Planning and supervision of geotechnical investigations including boring, drilling, sampling and in-situ testing for dams and buildings.
- Planning and performance of engineering geologic mapping and development of geologic cross- sections.
- Planning and conductance of rock discontinuity survey i.e. scan line survey, detail line survey.
- Planning and acquisition of orientation data for discontinuities in a rock mass.
- Plotting of stereo- nets for discontinuities and analysis of data for rock mass strength.
- Studies, investigations and evaluation of landslides.
- Slope stability analysis by using computer aided programs.
- Design of remedial works for various landslide projects.
- Development of land-use and slope maps by using satellite imageries.

- Preparation of laboratory testing programs and analyses of lab test results.
- Data analysis, interpretation of geological and geotechnical investigation data and compilation of reports.
- Performance of permeability test in the borehole, logging of test pits, trenches,

RESEARCH PROJECTS

Research Project Title	Year
Landslide Susceptibility and Hazard Zonation Mapping of Kohala – Muzaffarabad Road, Pakistan (Research Report Submitted to Director, Research, PU).	2013-2014
Detail Study of A Major Landslide Near Chatar Kalas AJK, Pakistan (Research Report Submitted to Director, Research, PU).	2016-2017
Landslide Susceptibility Mapping of Areas in Muzaffarabad, AJK, Pakistan (Research Report Submitted to Director, Research, PU).	2019-2020
Landslide Susceptibility Mapping by Comparison of Different Data-Driven Techniques, Pakistan (Research Report Submitted to Director, Research, PU).	2020-2021

PUBLICATIONS AND CONFERENCE PRESENTATION

Raza, I., Khalid, P., Ehsan, M, I., Ahmad, Q, A., Khurram, S., Rabia, Zainab, R., **Farooq, S**., (2024) Geospatial interpolation and hydro-geochemical characterization of alluvial aquifers in the Thal Desert, Punjab, Pakistan. PLOS ONE.

Ali, F., Sirfraz, Y., Shahzad, A., Ahmed, K, S., Riaz, M, T., **Farooq S**., (2024) Physico-Mechanical and Petrographic Appraisal of Carbonate Rocks as Construction Aggregate: A Case Study from Lesser Himalaya, Pakistan. Transportation Research Record. (2024) 1-16. DOI: 10.1177/03611981241252827

Muhammad, S., Khalid, P., Ehsan, M, I., Qureshi, J., **Farooq, S**., (2023) Evaluation of aquifer parameters through integrated approach of geophysical investigations, pumping test analysis and Dar-Zarrouk parameters in the central part of Bari Doab, Punjab, Pakistan. Environmental Monitoring and Assessment. 195:1435. DOI: 10.1007/s10661-023-12049-0

Akram, A., Fatima, M., Mahnoor., Akram, S., **Farooq, S**., Ahmed, L., (2022). Kinematic and Geotechnical Evaluation of Panjgaran Landslide, Neelum Valley Road, Azad Jammu and Kashmir, Pakistan. Journal of Earth Sciences and Technology. Vol. 3, No. 2 (2022); 113–125

Shafiq, A., Akram, S., **Farooq, S**., Shuja, F., Yousaf, R., Munir, A., Ahmed, L., (2022). Langarpura Landslide -Post-2005 Earthquake Study. Journal of Earth Sciences and Technology. Vol. 3, No. 2 (2022); 99–112

Farooq, S., Akram, S., (2021). Landslide susceptibility mapping using information value method in Jhelum Valley of the Himalayas. Arabian Journal of Geosciences. DOI: 10.1007/s12517-021-07147-7

Farooq, S., Akram, S., (2021). Comparison of data-driven landslide susceptibility assessment using weight of evidence, information value, frequency ratio and certainty factor methods. Acta Geodynamica et Geomaterialia. DOI: 10.13168/AGG.2021.0021

Ahmed, N., Ali, S H., Ahmada, M., Khalida, P., Ahmadd, B., Akram, M S., **Farooq**, S., Din, Z U., (2019). Subsurface structural investigation based on seismic data of the north-eastern Potwar basin, Pakistan. Indian Journal of Geo Marine Sciences.

Akram, S., Ahmed, L., **Farooq, S**., Ahad, M A., Zaidi, S M H., Khan, M., Azhar, M U., (2018). Geotechnical evaluation of rock cut slopes using basic Rock Mass Rating (RMRbasic), Slope Mass

Rating (SMR) and Kinematic Analysis along Islamabad Muzaffarabad Dual Carriageway (IMDC), Pakistan. Journal of Biodiversity and Environmental Sciences. Vol. 13, No. 1. P 297-306

Akram, S., **Farooq, S**., Naeem, M., Ghazi, S., (2017). Prediction of mechanical behaviour from mineralogical composition of Sakesar limestone, Central Salt Range, Pakistan. Bulletin of Engineering Geology and the Environment DOI: 10.1007/s10064-016-1002-3

Akram, S, Azhar. M. U, **Farooq. S**. (2014). Prediction of Uniaxial Compressive Strength (UCS) of Sakesar Limestone in Salt Range – Pakistan by Indirect Methods. International Journal of Advanced Information Science and Technology (IJAIST) Vol.32, No.32, December 2014 ISSN No. 2319-2682 DOI: 10.15693

Akram, M. S. & **Farooq, S.** (2014). Evaluation of Rock Cut Slope for Sheraton Hotel in Bahria Golf City, Islamabad. International Conference on Earth Science Pakistan.

Ahmad, S. R., Mahmood, K., **Farooq, S**. (2014) GIS based Online Order Delivery System. Pakistan Journal of Science.

Ahmad, S. R., Amer, M. A., Ghazi, S., Khan, K., **Farooq, S**. (2013) Carbon Dioxide Geologic Sequestration – A Safe and Economically Emerging Technology for Sustainable Environment. Pakistan Pakistan Journal of Science (Vol. 65 No. 4 December, 2013)

Akram, S., **Farooq, S**., Kashif, H. (2013). Geotechnical studies and stability analysis of Miachar Landslide in Hunza valley, Baltistan, Pakistan. In Proc. 13th National Conference on Geotechnical Engineering, March 14-15, 2013, Lahore, Pakistan

SCHOLARLY SERVICES

Journal of Mountain Science	Reviewer
Frontiers in Earth Science	Reviewer
Journal of Acta Montanistica Slovaca	Reviewer
International Journal of Geo-Engineering	Reviewer
Kashmir Journal of Geology	Reviewer

RESEARCH SUPERVISED

MS / M.Phil Research Supervision

Name of Student	Title of Research Thesis	Completion Year
Azmat Rasool	Slopes Stability Analysis at Torkham Border Crossing Facilities, Khyber Pakhtunkhawa, Pakistan	2024
Hashmat Ullah	Exploration of Copper Deposits in North Waziristan Ophiolite Complex, Pakistan: An Integrated Approach Using Gravity, Electrical Resistivity Tomography (ERT), and Induced Polarization (IP) Methods.	2024
Muhammad Haroon Ch	Landslide Detection and Susceptibility Modelling by Using Bivariate Statistical Methods with Geospatial Tools Along River Neelum in District Muzaffarabad (AJK), Pakistan.	2020
Muhammad Sajjad	Landslide Susceptibility Mapping Along Muzaffarabad - Chakothi Road from Sarran to Chakothi Village, AJK, Pakistan	2019

Mohsin Ali	Landslide Susceptibility Map Along Muzzafarabad – Chakothi Road from Langarpura to Gorri Village, AJK	2019
Aamir Hameed	Rock Mass Characterization and Support Assessment Using Empirical Methods Along A Headrace Tunnel of A Small Hydropower Project In Ushu Valley, At Kalam Swat, Khyber Pakhtunkhwa Pakistan	2019
Arslan Munawar	Physical and Mechanical Properties of Coarse Aggregates and Fine Aggregates and Their Effect on Concrete Mix With Special Emphasis on by Mixing Silica Fume	2017
Khalid Iqbal	Geotechnical Evaluation of Landslide Problems Along Azad Pattan - Rawalakot Road, Azad Kashmir, Pakistan	2017
Syed Qamar Abbas Kirmani	Geotechnical Evaluation and Stability Analysis of Chattar Kalas Landslide Along Kohala Muzaffarabad Road, Pakistan	2016
Zeeshan Ali	Stability Assessment of Slopes and Underground Excavations of A Small Hydropower Project, KPK, Pakistan	2015

B.S Research Supervision

Name of Student	**Title of Research Thesis**	**Completion Year**
Ahmad Raza, Tanveer Raza, Maida Ahmed, Kinza Hussain	Kinematic and Geotechnical Evaluation of Slopes on Access Roads to Employees Colony at Balakot Hydropower Project, Pakistan	2023
Muhammad Abdullah, Hussain Habib, Muhammad Umer, Ali Hassan	Kinematic and Geotechnical Evaluation of Dunga Gali Landslide, Abbottabad, Pakistan	2022
Muhammad Rizwan, Huma Akram, Sobia Tariq, Mudasra Riaz, Zain Ul Abideen	Kinematic and Geotechnical Evaluation of Bunkot Landslide Abbottabad, Khyber Pakhtunkhwan, Pakistan	2022
Mubbara Fatima, Mahnoor, Areej Akram	Kinematic & Geotechnical Evaluation of Panjgaran Landslide, Neelum Valley Road, Azad Jammu & Kashmir, Pakistan	2021
Ayesha Shafiq, Faryal Shuja, Rafia Yousaf	Kinematic and Geotechnical Evaluation of Langarpura Landslide, Azad Jammu And Kashmir, Pakistan	2021
Muhammad Zubair, Hameed, Zarish Saleem, Razi Ullah, Farah Mubeen, Hassan Zahid	Effect of Ph Variation of Solution on Slake Durability of Murree Formation Lithology	2020
Mohammad Reehan, Sumbal Ramzan, Zoha Asghar, Muhammad Subhan Ali	Sensitivity Analysis of Slope Geometry In Controlling Stability of Soil Slopes	2020
Waqas Mahmood, Farhan Malik, M. Umair Shareef, Abdul Qudoos	Stability Evaluation of Natural and Cut Slopes Along Penstock and Powerhouse of A Hydropower Project In Kalam Valley, Swat, KPK	2019
Muhammad Ahsan	Engineering Geological Studies and Stability Evaluation	2018

Rashid, Haroon Saeed, Haroon Ch, Huzaifa Dar	of A Potentially Unstable Slope Along Muzzafarabad Hattian Bala Road Azad Jammu and Kashmir (AJK), Pakistan	
M. Ahsan Farooq, Asad Ali, Abdur Rehman, M. Fahim Akhtar, Muhammad Ali	Geotechnical Studies of Landslide Along Islamabad-Murree Dual Carriageway (Imdc), Lakot-Massayari Road Section, Pakistan	2014

TECHNICAL SKILLS

UDEC&3DEC Discrete Element Methods (DEM) code having numerious applications in geomechanics.

Map3D Boundary Element Methods (BEM) code for stress analysis of underground excavations.

Phase-II/ RS2/3 Finite Element Methods (FEM) code having numerous applications in Geotech.

RocPack-III For rock slope stability analyses (Kinematic & Limit Equilibrium).

Geo-Orient For stereographic Projection and kinematic analysis of discontinuity orientation data.

Rockworks For the development of 3D geological model based on surface and subsurface data.

Roclab/ data For rock mass strength criteria.

DIPS For kinematic analyses of rock slopes.

SWEDGE For Limit Equilibrium analyses of wedge failures in rock slopes.

UNWEDGE For Limit Equilibrium analyses of wedge failures in underground rock excavations.

SLIDE/3D For Limit Equilibrium analyses of overburden/ rock slopes.

SLOPE/W For Limit Equilibrium analyses of overburden/ rock slopes.

SIT Sonic Integrity Testing Program for pile non-destructive testing.

ResixP For the resistivity analysis/ interpretation of subsurface material.

Arc GIS For Geological Mapping, Modeling and Spatial Analysis for Geosciences.

Surfer For Geological Mapping, Contouring and Surface Modeling.

Auto CAD For Geological Cross-Section and Layout Design.

Corel Draw For Geological Illustration and Data Visualization.

MS Office For Professional Documentation to create well-formatted reports, proposals.

LANGUAGES AND DEGREE OF PROFICIENCY

English - Fluent in speaking, reading and writing (Medium of Instructions in higher education)

Urdu - Fluent in speaking, reading and writing (National Language- Pakistan)

Punjabi - Fluent in speaking, reading and writing (Mother Language- Punjab, Pakistan)

DR. SALMAN FAROOQ

December 2024