Ihtisham Islam (P.h.D)

Professional Engineering Geologist/ University Lecturer / Researcher/ Administrator
D.O.B 28/01/1990

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Peshawar, Pakistan 25120

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Skills

✓ Geological Mapping | Petrography | Slope Stability Analysis
✓ Geotechnical Investigations | Drilling Supervision | Site Suitability Analysis
✓ GIS & Software: ArcGIS, QGIS, Corel Draw, Google Earth, RES2Dwin, IPI2 Win, Rad Explorer GPR
✓ Research & Data Analysis | Manuscript Reviewing | Academic Leadership
✓ University Administration |

Accomplished Geotechnical/Engineering Geologist with over 12 years of experience in research, teaching, and fieldwork, specializing in landslide risk analysis and geotechnical investigations. A proven track record of publishing in high-impact journals, leading multidisciplinary projects, and supervising over 150 undergraduate and MPhil research projects. Adept in GIS, geophysical surveys, and geotechnical site investigations with extensive field expertise in challenging terrains.

Work History

2014-Current

Lecturer, Engineering Geology

Department Of Geology, Shaheed Benazir Bhutto University Sheringal Dir, Dir Upper

- Evaluated and revised lesson plans and course content to achieve student-centered learning.
- Used variety of learning modalities and support materials to facilitate learning process and accentuate presentations.
- Participated in conferences and professional development opportunities to stay up-to-date with latest trends in field.
- Supervised over 150 undergraduate projects and two MPhil theses in Geotechnical Engineering.
- Conducted site suitability studies, leading to enhanced safety protocols for tunnel construction projects.
- Collected and analyzed geophysical data, contributing to many major publications in high-impact journals.

Warden/Deputy Provost/Administrator

- Managed all administrative responsibilities for university hostels, ensuring efficient operations.
- Implemented disciplinary policies and student engagement initiatives for improved campus life.

2012-2014

Site Geotechnical Engineer/ Engineering Geologist

Task International Pvt Ltd, Peshawar

- Conducted geotechnical analysis for construction sites, supporting clients like FWO and NESPAK.

Hostel Management | Team Leadership

Websites, Portfolios, Profiles

- https://scholar.google.com/citations?user=YV02F5YAAAAJ&hl=en&oi=ao
- https://pk.linkedin.com/in/ihtisham-islam-0621a262
- https://sbbu.edu.pk/departments/geology/faculty.php

- Performed ground-penetrating radar and electrical resistivity surveys for engineering assessments.
- Monitored drilling activities and provided compliance support for government regulations.

Education

2024

Ph.D. in Geology (Engineering Geology) – University of Peshawar (2024) **(4.0/4.0 CGPA)**
Research: Role of Geochemistry and Discontinuities in Landslide Triggering Mechanisms

2017

Master of Science in Geophysics (Engineering Geophysics/Geotechnical) – University of Peshawar (2017) **(3.9/4.0 CGPA)**
Research: Geophysical and Geotechnical Characterization of Subsurface Soils

2012

Bachelor of Science in Geology – University of Peshawar (2012) **(A Grade)**
Research: Petrography & Physico-mechanical Properties of Kumrat Granites, Dir Upper

2008

H.S.S.C: Engineering (Pre-Engineering)-Islamia College Peshawar - *Peshawar Pakistan* (2008)

Grading: First division, A grade.

2006

Secondary School Certificate S.S.C: Science

University Public School - *University Of Peshawar* (2006)
Grading: First division, A grade.

Certifications

2020-06 "Project management" from University of California, Irvine USA.

2020-07 "Our Earth" from The University of Manchester.

2020-06 "Introduction to GIS mapping" from University of

	Toronto, Canada.
2020-06	"University Teaching" from The University of Hong Kong.
2020-07	"Experimental Design Basics" from Arizona State University, USA.
2020-06	"Leading Teams" from University of Michigan, USA.
2020-06	"Understanding research methods" from University of London.
2020-07	"Data Scientist Tools box" from John Hopkins University, USA.
2020-08	"Academic Information seeking" from University of Copenhagen and Technical University of Denmark (DTU).
2020-08	"How to Write and Publish a Scientific Paper (Project-Centered Course)" from École Polytechnique France.

Publications

1. **Islam, I.**, Ahmed, W., & Khattak, S. A. **(2025)**. Investigating the role of geological strength index and susceptible zones in landslide triggering mechanisms from Chukyatan-Kumrat road, Dir Upper, Pakistan. International Journal of Geo-Engineering, 16(1), 1-23. https://doi.org/10.1186/s40703-025-00240-w
2. **Islam, I***., Ahmed, W., Rizwan, M., Ullah, S., Orakzai, A. U., & Petrounias, P. **(2024)**. Investigating the role of geochemistry and geotechnical properties in landslide characterization and triggering mechanisms: A case study from Dir Upper, Khyber Pakhtunkhwa Pakistan. Physics and Chemistry of the Earth, Parts A/B/C, 135, 103636. https://doi.org/10.1016/j.pce.2024.103636
3. **Islam, I.**, Khattak, S. A., Petrounias, P., Asif, A. R., Ali Shah, S. S., Turrakheil, K. S., Ahmed, W., Mehboob Ur Rashid, Qasim Ur Rehman, & Muhammad Naveed Khan. (2025). Experimental Investigation of Mechanical Properties and Durability of the Self-

Compacting Geopolymer Mortar using various Mineral Additions. Rudarsko-geološko-Naftni Zbornik, 40(1), 13–27. https://doi.org/10.17794/rgn.2025.1.2

4. Zeb, M.J., Rashid, M.U., **Islam, I**., Khattak, S.A., Ahmed, W. **(2025)**. Petrography and geochemistry of alkaline rocks from Michni (Warsak) area, NW Himalayas, Pakistan: Insights into petrogenesis and tectonic setting, Solid Earth Sciences, 10 (3), 100254,ISSN 2451-912X, https://doi.org/10.1016/j.sesci.2025.100254
5. Asif, A. R., Sajid, M., Ahmed, W., **Islam, I**., Nawaz, A., & Khattak, S. A. **(2025)**. Thermal Thresholds and Mechanical Behavior of Granitic Rocks from Northern Pakistan: Implications for Rock Engineering. Geotechnical and Geological Engineering, 43(7), 1-33. https://doi.org/10.1007/s10706-025-03311-y
6. Qadir, A., Ahmed, W., Yasir, M., **Islam, I**., Asif, A. R., & Khattak, S. A. **(2025)**. Investigating the Scale Effect on the Compressive Strength of Marble: Influence of Specimen Size, Shape, and Loading Surfaces. Indian Geotechnical Journal, 1-17.
7. Rehman, F., Hussain, M., Khan, A., **Islam, I**., Khattak, S. A., & Khan, J. **(2025)**. Lithological, geochemical and geotechnical investigations of cretaceous and paleocene carbonates exposed in the Darsamand anticline, District Hangu, Khyber Pakhtunkhwa, Pakistan. Carbonates and Evaporites, 40(1), 28. https://doi.org/10.1007/s13146-025-01054-8
8. Khan, W., Khattak, S. A., Wang, L., Zhong, Y., Khan, N., Wan, Q., **Islam, I**., Qadir, A. **(2025)**. Reservoir potential of Middle Jurassic Carbonates in the Nizampur Basin, Pakistan: insights from paleoenvironmental and diagenetic analyses. Physics and Chemistry of the Earth, Parts A/B/C, 103842. https://doi.org/10.1016/j.pce.2024.103842
9. Faiz, M. I., Ahmed, S., Khan, S. D., Rehman, G., Khalid, A., **Islam, I***., & Janjuhah, H. T. **(2025).** Active faulting and seismicity, Northwest Pakistan: a case study of Peshawar Basin Pakistan. Environmental Earth Sciences, 84(1), 1-15. https://doi.org/10.1007/s12665-024-11989-1
10. Khan, S. W., Qadir, A., Khattak, S. A., **Islam, I***., &

Khan, W. **(2025)**. Petrography and geochemistry of the Early Cambrian phosphorites from district Abbottabad, Pakistan: insights into depositional environment and origin. Carbonates and Evaporites, 40(2), 71. https://doi.org/10.1007/s13146-025-01104-1

11. Khan, A., Shah, M. T., Ali, L., Alam, S. F., **Islam, I.,** & Khattak, S. A. **(2025)**. Mineralogy and geochemistry of nephrite from Drosh area, district Chitral, northern Pakistan. Ore and Energy Resource Geology, 100115. https://doi.org/10.1016/j.oreoa.2025.100115
12. Niaz, M. T., Ahmed, W., Khattak, S. F., Khan, J., Ahmad, L., **Islam, I**., & Khattak, S. A. **(2025)**. Evaluating Tunnel Squeezing in the Lawi Hydropower Project, Chitral, Pakistan: Geological and Empirical Perspectives. Geotechnical and Geological Engineering, 43(7), 1-18. https://doi.org/10.1007/s10706-025-03361-2
13. Muhammad, B. J. H., Rahmani, N. R., Mohabbat, M. J., **Islam, I**., Ahmad, I., & Ping, W. **(2025)**. Integration of Remote Sensing and Geochemical analysis of Chromite bodies in Logar Ophiolitic Complex, Southeast Afghanistan. Kuwait Journal of Science, 100427. https://doi.org/10.1016/j.kjs.2025.100427
14. Ali, A., Ahmed, W., Asif, A. R., Yasir, M., **Islam, I.,** Qadir, A., & Khan, J. **(2025)**. Geomechanical Response of Buner Marble, Pakistan, to Elevated Temperatures: Triaxial Strength Analysis through Single and Multistage Approaches. Rudarsko-geološko-naftni zbornik, 40(2), 107-125. https://doi.org/10.17794/rgn.2025.2.8
15. Khan, J., Ahmed, W., Waseem, M., **Islam, I**., & Khattak, S. A. **(2025)**. Evaluating tunnel stability in challenging terrains: a comprehensive study of geological factors and support system in the Lowari Tunnel, Northern Pakistan. Italian journal of engineering geology and environment, (1), 55-66. https:// 10.4408/IJEGE.2025-01.O-07
16. Muhammad, B. J. H., Ping, W., Mohabbat, M. J., **Islam, I.**, & Khattak, S. A. **(2025).** Examining the relationship among land surface temperature (LST), land use/land cover (LULC) and spectral indices in

Kunar Province, Afghanistan. GeoJournal, 90(5), 237. https://doi.org/10.1007/s10708-025-11481-8

17. Nasrullah, Kian, L. I., Khan, S., Ahmad, A., Ishtiaq, T., Rashid, M. U., & **Islam, I*. (2024)**. Land subsidence resulting from reservoir overexploitation and karez collapse in Mastung and Quetta districts, Baluchistan, Pakistan. Environmental Earth Sciences, 83(16), 455. https://doi.org/10.1007/s12665-024-11774-0
18. Khattak, S. A., Hanif, M., Ahmad, S., **Islam, I**., Kontakiotis, G., Besiou, E., & Antonarakou, A. **(2024)**. Sedimentology and reservoir characterization of Upper Cretaceous Kawagarh Formation, Upper Indus Basin, Lesser Himalayas, Pakistan: inferences from petrography, SEM-EDS and petrophysics. Carbonates and Evaporites, 39(3), 72. https://doi.org/10.1007/s13146-024-00984-z
19. Khan, J., Ahmed, W., Waseem, M., Shah, S. T., Khan, S., ur Rehman, Q., **Islam, I***., & Kontakiotis, G. **(2024)**. Deterministic seismic hazard assessment of a long mountainous road tunnel: a case study of Lowari Tunnel, Pakistan. Environmental Earth Sciences, 83(10), 303. https://doi.org/10.1007/s12665-024-11625-y
20. Ibrar, M., Khan, S., Rashid, M. U., Kontakiotis, G., **Islam, I***., Janjuhah, H. T., & Antonarakou, A. **(2024)**. Integrated sedimentary and diagenetic constraints for delineating the reservoir potential of Jurassic carbonate sequences in the autochthonous Samana Suk Formation, Attock-Cherat Nizampur Area, Pakistan. Carbonates and Evaporites, 39(2), 1-15. https://doi.org/10.1007/s13146-024-00963-4.
21. Shah, S. S. A., Asif, A. R., Ilahi, M., Haroon, H., **Islam, I.**, Qadir, A. & Ditta, A. **(2024)**. Geographical distribution of radon and associated health risks in drinking water samples collected from the Mulazai area of Peshawar, Pakistan. Scientific Reports, 14(1), 6042. https://doi.org/10.1038/s41598-024-55017-5
22. Rehman, Q. U., Waseem, M., Ahmed, W., **Islam, I.**, Janjuhah, H. T., & Kontakiotis, G. **(2023)**. Ground motion hazard of the China–Pakistan Economic Corridor (CPEC) routes in Pakistan. Progress in Earth

and Planetary Science, 10(1), 27. https://doi.org/10.1186/s40645-023-00559-x.

23. Khan, J., Ahmed, W., Waseem, M., Ali, W., Rehman, I. U., **Islam, I.**, & Skilodimou, H. D. **(2023)**. Lowari Tunnel Water Quality Evaluation: Implications for Tunnel Support, Potable Water Supply, and Irrigation in Northwestern Himalayas, Pakistan. Applied Sciences, 13(15), 8895. https://doi.org/10.3390/app13158895
24. *Rashid, M. U., Kamran, M., Zeb, M. J., **Islam, I.**, Janjuhah, H. T., & Kontakiotis, G. **(2023)**. Assessment of Potential Potable Water Reserves in Islamabad, Pakistan Using Vertical Electrical Sounding Technique. Hydrology, 10(12), 217. https://doi.org/10.3390/hydrology10120217*
25. Nawaz, M., Ahmed, W., Yasir, M., **Islam, I.**, Janjuhah, H. T., Kontakiotis, G., ... & Stouraiti, C. **(2023)**. Petrographic and Geotechnical Features of Dir Volcanics as Dimension Stone, Upper Dir, North Pakistan. Geosciences, 13(8), 224. https://doi.org/10.3390/geosciences13080224
26. Shah, S. S. A., Asif, A. R., Ahmed, W., **Islam, I.**, Waseem, M., Janjuhah, H. T., & Kontakiotis, G. **(2023)**. Determination of dynamic properties of fine-grained soils at high cyclic strains. Geosciences, 13(7), 204. https://doi.org/10.3390/geosciences13070204
27. *Petrounias, P., Giannakopoulou, P. P., Rogkala, A., Antoniou, N., Koutsovitis, P., Zygouri, E., ... **Islam, I.**,& Koukouzas, N. **(2023)**. Posidonia oceanica balls (Egagropili) from Kefalonia Island evaluated as alternative biomass source for green energy. Journal of Marine Science and Engineering, 11(4), 749. https://doi.org/10.3390/jmse11040749*
28. Rashid, M. U., Ahmed, W., **Islam, I**., Petrounias, P., Giannakopoulou, P. P., & Koukouzas, N. **(2023)**. Impact of Climate change on the stability of the Miacher Slope, Upper Hunza, Gilgit Baltistan, Pakistan. Climate, 11(5), 102. https://doi.org/10.3390/cli11050102
29. Qureshi, K. A., Rizwan, M., Janjuhah, H. T., **Islam, I**., Kontakiotis, G., Bilal, A., & Arif, M. **(2024)**. An

integrated petrographical and geochemical study of the Tredian Formation in the Salt and Trans-Indus Surghar ranges, North-West Pakistan: Implications for palaeoclimate. The Depositional Record, 10(1), 33-50. https://doi.org/10.1002/dep2.255

30. Ahmed, W., Ahmad, N., Janjuhah, H. T., **Islam, I.**, Sajid, M., & Kontakiotis, G. **(2023)**. The evaluation of non-destructive tests for the strength and physical properties of granite, marble, and sandstone: a case study from North Pakistan. Quaternary, 6(1), 4. https://doi.org/10.3390/quat6010004
31. Yasir, M., Ahmed, W., **Islam, I.**, Sajid, M., Janjuhah, H. T., & Kontakiotis, G. **(2022)**. Composition, texture, and weathering controls on the physical and strength properties of selected intrusive igneous rocks from Northern Pakistan. Geosciences, 12(7), 273. https://doi.org/10.3390/geosciences12070273.
32. Khan, J., Ahmed, W., Yasir, M., **Islam, I**., Janjuhah, H. T., & Kontakiotis, G. **(2022)**. Pollutants Concentration during the Construction and Operation Stages of a Long Tunnel: A Case Study of Lowari Tunnel,(Dir–Chitral), Khyber Pakhtunkhwa, Pakistan. Applied Sciences, 12(12), 6170. https://doi.org/10.3390/app12126170
33. Asif, A. R., **Islam, I.**, Ahmed, W., Sajid, M., Qadir, A., & Ditta, A. **(2022)**. Exploring the potential of Eocene carbonates through petrographic, geochemical, and geotechnical analyses for their utilization as aggregates for engineering structures. Arabian Journal of Geosciences, 15(11), 1105. https://doi.org/10.1007/s12517-022-10383-0
34. Feasibility study of Dir Group volcanic rocks used as coarse aggregates in concrete and asphalt in Dir Upper, Khyber Pakhtunkhwa. Proceedings of the 1st International Conference on Recent Advances in Civil and Earthquake Engineering, 8th October, **2021**, Peshawar, Pakistan. (pp. 263-269)
35. **Islam, I.**, Ahmed, W., Rashid, M. U., Orakzai, A. U., & Ditta, A. **(2020)**. Geophysical and geotechnical characterization of shallow subsurface soil: a case study of University of Peshawar and surrounding areas. Arabian Journal of Geosciences, 13(18), 949.

https://doi.org/10.1007/s12517-020-05947-x
36. Islam, B., Nazneen, S., **Islam, I**., Ditta, A., Khurshid, M., & Asif, M. **(2020)**. Factors determining the residents' preparedness against natural disasters: a case study of Pakistan flood-2010. J Environ Agric Sci, 22(1), 32-40.
37. Ditta, A., Mehmood, S., Imtiaz, M., Rizwan, M. S., & **Islam, I. (2020)**. Soil fertility and nutrient management with the help of nanotechnology. In Nanomaterials for Agriculture and Forestry Applications (pp. 273-287). Elsevier.
38. Arif, M., **Islam, I***., & Rizwan, M. **(2015)**. Petrography and physico-mechanical properties of the granitic rocks from Kumrat valley, Kohistan Batholith, NW Pakistan. AshEse Journal of Physical Science, 1(1), 1-8.
39. Ping, W., Mohabbat, M. J., **Islam, I.**, & Ahmad, I. **(2024)**. The COMPARATIVE ANALYSIS OF MECHANICAL STRENGTH AND PETROGRAPHIC FEATURES OF ANDESITE AND BASALT FROM SAWABI AREA, NW PAKISTAN: IMPLICATIONS FOR CONSTRUCTION ENGINEERING. Journal of Mountain Area Research, 9, 92-106. https://doi.org/10.53874/jmar.v9i0.199.
40. Ibrahim, M., Hamza, M., **Islam, I*.,** Asif, A.R, Ahmad, S.,Hassan, B., Shan, M., Kontakiotis, G., Janjuhah, H.T.,Lazos, I and Antonarakou, A. (**2024**). Carbonate Rock Evaluation: Petrographic Insights and Geotechnical Implications for Construction Industries in the Salt Range Region, Pakistan. Acta Montanica Slovaca, 29 (4), 1001-1015. https://doi.org/10.46544/AMS.v29i4.18
41. Muhammad, B. J. H., Ping, W., Mohabbat, M. J., Ahmad, I., & **Islam, I.** (**2025**). Modelling and prediction of land use land cover change dynamics based on the land change modeller in Kunar Province, Eastern Afghanistan. Scottish Geographical Journal, 1-24. https://doi.org/10.1080/14702541.2025.2488819
42. Anjum, M. N., Yaseen, M., Ahmad, J., & **Islam, I. (2025)**. PETROGRAPHY AND GEOCHEMICAL CHARACTERIZATIONS OF TANAWAL FORMATION

(QUARTZOSE ROCKS FROM SWABI, KHYBER PAKHTUNKHWA, PAKISTAN; IMPLICATIONS FOR INDUSTRIAL SUITABILITY. Spectrum of Engineering Sciences, 3(5), 183-194. https://doi.org/10.5281/zenodo.15369469

International Conference papers/Workshops

1. Correlation study of overland and marine aggregates capable to be used in various construction applications. 17th INTERNATIONAL CONGRESS of the Geological Society of Greece **2025**. BULLETIN OF THE GEOLOGICAL SOCIETY OF GREECE, SP. PUBL. EXTENDED ABSTRACT 096. Mytilene, Lesvos **Greece**.
2. A (preliminary) comparative gemological-mineralogical study of quartz crystals derived from Greece and Brazil. 17th INTERNATIONAL CONGRESS of the Geological Society of Greece **2025**. BULLETIN OF THE GEOLOGICAL SOCIETY OF GREECE, SP. PUBL. EXTENDED ABSTRACT 025. Mytilene, Lesvos **Greece**.
3. Poster Presentation at 36th Himalaya-Karakorum-Tibet Workshop 17-24 June, **2024** Kraków, **Poland**. "Role of mineralogy and discontinuities pattern in triggering mechanism of landslides from Chukyatan-Kumrat Road Dir Upper, Khyber Pakhtunkhwa".

Professional Services

1. Review manuscript for International Journal of Geo-Engineering. Springer Nature.
2. Review manuscripts for International Journal of Advanced and Applied Sciences. Taiwan. EISSN2313-3724
3. Review manuscripts for Scientific reports Springer Nature. Scientific Reports ISSN 2045-2322.
4. Review manuscripts for Journal of Building Pathology and Rehabilitation Springer Nature. ISSN 2365-3167.
5. Review manuscripts for Applied Sciences Springer Nature. Scientific Reports ISSN 2523-3971.
6. Review manuscripts for Discover Materials Springer Nature. Scientific Reports ISSN 2730-7727.
7. Review manuscripts for Iranian Journal of Science and Technology, Transactions of Civil Engineering. Springer Nature. ISSN 2364-1843

8. Reviewer in Physics and chemistry of earth. Elsevier. ISSN 1474-7065.
9. Reviewer of Frontiers in earth science.
10. Reviewer of Iranian journal of earth science. Springer Nature
11. Reviewer of Discover Geosciences. Springer Nature
12. Reviewer of Environmental Geochemistry and Health. Springer Nature