

# ALI RAZA

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## EDUCATION

University of Houston, Texas, USA

**Ph.D. Geology**

Expected May 2027

University of Chinese Academy of Sciences, Beijing, China

**M.S. Geology**

January 2022

University of Haripur, Khyber Pakhtunkhwa, Pakistan

**B.S. Geology**

August 2017

## PROFESSIONAL EXPERIENCE

**University of Houston, Department of Earth and Atmospheric Sciences**

January 2025 - May 2025

*Teaching Assistant*

- Teaching lab for sedimentary petrogenesis class.
- Grading labs
- Proctoring exams

**University of Houston, Department of Earth and Atmospheric Sciences**

March 2023 - July 2023

*Research Assistant*

- Collaborated with peers and faculty to developed non-destructive methods for analyzing carbonates.
- Gained hands-on experience with various scientific tools and instruments.
- Enhanced communication skills by presenting in renowned conferences.
- Improved scientific writing by publishing the results in peer-reviewed journal.
- Secured research and travel grants to present at international platforms.

**CGGC-AM JV Associates**

**Hazara Motorway Project ‘China-Pakistan Economic Corridor (CPEC)’**

*Internee*

June 2016 – December 2016

- Tested geological materials for construction purposes
- Conducted field observations and collected sample for laboratory analysis

**Pakistan Museum of Natural History, Islamabad, Pakistan**

*Internee*

August 2016 – September 2016

- Examined minerals for classification
- Prepared thin section for microscopic studies
- Identified fossils for palynology

## CERTIFICATIONS

- **CCSx: Climate Change: Carbon Capture and Storage**, by EdinburghX. July 2024
- **Diploma of Office Automation**, by ABACUS Polytechnic and Science College, Pakistan. June 2011

## SCHOLARSHIPS AND AWARDS

- On To the Future Award, Geological Society of America September 2024
- Excellent Graduate Student Award by the EAS Department, University of Houston Spring 2024
- Graduate Student Conference Travel Award by NSM, University of Houston Fall 2023
- Travel grant by Centro Nacional de Pesquisa E Conservaçã o de Cavernas and Past Global Changes to attend Summer School on Speleothem Science in São Paulo, Brazil August 2023
- EAS Graduate Research Grants Program, University of Houston Spring 2023
- Graduate Tuition Fellowship, University of Houston Fall 2022-Present
- US-Pakistan Knowledge Corridor PhD Scholarship Program Higher Education Commission of Pakistan for Doctoral studies 2022-2027
- The Belt and Road MS Fellowship Programm Chinese Academy of Sciences for Master's studies 2018-2021

## PUBLICATIONS AND ABSTRACT

Zhu, H., Lu, Y., Pan, Y., Qiao, P., **Raza, A.** and Liu, W., 2024. *Nanoscale mineralogy and organic structure characterization of shales: Insights via AFM-IR spectroscopy*. *Advances in Geo-Energy Research*, 13(3).

**Raza, A.**, Voarintsoa, N.R.G., Khan, S.D. and Qasim, M., 2024. *Characterizing stalagmite composition using hyperspectral imaging*. *Sedimentary Geology*, 467, p.106654.

**Raza, A.**, Ju, Y., Shah, A., Khattak, S.A., Asghar, A., Qiao, P. and Xiao, L., *Field Investigations and Organic Content Measurement of Cretaceous Chichali Shale, Chichali Gorge, Trans Indus Ranges, Pakistan*. *Academic Research*, 4(9), pp.78-91.

Ju, Y., Yu, K., Wang, G., Li, W., Zhang, K., Li, S., Guo, L., Sun, Y., Feng, H., Qiao, P. and **Raza, A.**, 2021. *Coupling response of the Meso–Cenozoic differential evolution of the North China Craton to lithospheric structural transformation*. *Earth-Science Reviews*, 223, p.103859.

Zhu, H., Ju, Y., Sun, Y., Huang, C., Feng, H. and **Raza, A.**, 2021. *Evolution characteristics and models of shale pores and fractures under tectonic deformation: A case study of the Lower Paleozoic marine shale in the Sichuan Basin and its periphery*. *Oil Gas Geol*, 42(1), pp.186-200.

**Raza, A.**, Voarintsoa, N.R.G., Khan, S.D., Cruz, F.W., and Qasim, M and Utida, G., 2024. *Automating mineral identification in stalagmites using hyperspectral imaging and machine learning*. Conference: GSA Connects 2024 in Anaheim, California. Poster. Vol. 56, No. 5, 2024. doi: 10.1130/abs/2024AM-404125. (Poster).

**Raza, A.**, Voarintsoa, N.R.G., Khan, S.D. and Qasim, M., 2023. *Combining Hyperspectral imaging, X-ray Diffraction and Petrography to interpret Stalagmites for Paleoclimate Reconstruction*. Conference: GSA Connects 2023 in Pittsburgh, Pennsylvania. Poster. Vol. 55, No. 6, 2023. doi: 10.1130/abs/2023AM-392868. (Poster).

**Raza, A.**, Voarintsoa, N.R.G., Khan, S.D., and Qasim, M., 2023. *Hyperspectral Imaging of Stalagmite, A case study of Anjokipoty Cave, NW Madagascar*. Summer School on Speleothem Science (S4) in São Paulo, Brazil. (Poster).

## PROFESSIONAL TRAININGS

- One-day field trip exploring the vital intersection of the geosciences and environmental justice in Los Angeles basin

- Excursion, California, USA. Sponsored by the Geological Society of America September 2024
- Summer School on Speleothem Science in University of São Paulo, Brazil August 2022
  - Spring School on Frontier and Interdisciplinary Sciences for Overseas Student, held by the International College of University of Chinese Academy of Sciences in Xian, China April 2019

## **SKILLS**

**Lab:** Powdered X-ray Diffraction, Hyperspectral Cameras SPECIM Image Collection and Processing, ASD Spectroradiometer FieldSpec Pro FR, Petrographic Microscopy, Scanning Electron Microscopy

**Programming:** ArcGIS (Pro), Adobe Photoshop, Corel Draw, Minitab, ENVI 5.6.2, Origin, Profex, Adobe Illustrator, MATLAB, Python, Structural Solver, GPlates, R Studio, Microsoft office, Google Collabs

**Languages:** Professional English, Bilingual in Hindko and Urdu, and Basic Chinese

## **PROFESSIONAL ACTIVITIES**

**Memberships:** American Association of Petroleum Geologists, Geological Society of America, Mineralogical Society of America, European Association of Geochemistry.

**Journal Reviewer:** Frontiers in Earth Science, Journal of Environmental and Earth Sciences.

**Volunteer:** IMAGE, Houston, TX, 2024

**Organizer:** Summer School on Speleothem Science, Morocco, 2025