

Dr. Aimal Khan Kasi

Professor of Geology
Centre of Excellence in Mineralogy, University of Balochistan, Quetta, Pakistan



Phone: 0092 (0)3218020352; 0092 (0)819211285

Email: aimal_kasi@yahoo.co.uk

PROFESSIONAL PROFILE

Professor of Geology with 23 years of academic, research and field experience in sedimentology, stratigraphy and sedimentary petrology. Author of 40+ peer-reviewed publications in international journals, with strong expertise in provenance analyses, basin evolution and fold-thrust belt tectonics.

RESEARCH INTERESTS

Sedimentology & Stratigraphy
Basin Analyses & Tectonics
Provenance Studies
Petrography & Geochemistry
Neogene-Quaternary Geology

ACADEMIC APPOINTMENTS

Professor (2019- present) - Centre of Excellence in Mineralogy (CEM), University of Balochistan
Associate Professor (2015-2019) - CEM, University of Balochistan
Assistant Professor (2007-2015) - CEM, University of Balochistan
Lecturer (2003- 2007): Department of Geology, University of Balochistan

EDUCATION

Ph.D. Geology (2014) - Stratigraphy, Sedimentology and Petrology of Miocene-Pleistocene Succession, Pishin Belt, Balochistan, Pakistan.
CEM, University of Balochistan,
M.Phil. Geology (2006) - Sedimentology and Petrology of the Oligocene-Miocene Panjgur Formation southwestern Makran, Pakistan.
CEM, University of Balochistan
M.Sc. Geology (2002) - Department of Geology, University of Balochistan

PUBLICATIONS

- 41- Manan, R. A., Kassi, A. M., Friis, H., Kasi, A. K., Ali, S. H., Farooqui, M. A., & Kakar, M. I. **2024**. Deposition and diagenesis of the Triassic-Jurassic limestone successions of the northwestern passive margin of the Indian plate, Sulaiman Fold-Thrust Belt, Pakistan. *Carbonates and Evaporites*, 39(4), 104.
- 40- Kasi, M. I., Manan, R. A., Kassi, A. M., ***Kasi, A. K.***, & Naseer, M. **2024**. Stratigraphy, Petrology and Facies Associations of the Quaternary Spin Karez Group, Hanna-Spin Karez Area, Quetta District, Pakistan. *Journal of Mountain Area Research*, 9, 16-30.

39. Alam, S. U., Mohibullah, M., **Kasi, A. K.**, Abdullah, A., Hussain, T. M., & Thebo, G. M. **2023**. Microfacies analysis, Depositional Environment and Biostratigraphy of the Early Eocene Dungan Formation, Kohlu area Balochistan, Pakistan. *Journal of Himalayan Earth Science*, 56(2)
- 38- Khan, W., Mirwani, M., Ullah, I., **Kasi, A. K.**, Kakar, M. I., & Fareed, S. **2023**. Appraisal of Neotectonic Activities in Shadi Kaur Catchment, Pasni, Balochistan-Pakistan. *Int. J. Econ. Environ. Geol.* Vol, 14(1), 21-30.
- 37- Umar, M., Kassi, A. M., Jamil, M., **Kasi, A. K.**, & Khan, A. S. **2023**. Cretaceous stratigraphic framework and sedimentary architecture, Pakistan: signatures of rift-drift tectonics and submarine volcanism along the western continental margin of the Indian Plate. Geological Society, London, Special Publications, 544(1), SP544-2023.
- 36- Abdullah, A., Mohibullah, M., **Kasi, A. K.**, ul Alam, S., & ul Haq, E. **2023**. Microfacies and Depositional Settings of the Eocene Nisai Formation, Pishin Belt, Pakistan. *Journal of Himalayan Earth Sciences*, 56(1), 11.
- 35- Ahmed, N., Kassi, A. M., **Kasi, A. K.**, Sohail, K., Asif, M., Naeem, A., & Panezai, M. **2022**. Gis-Based High-resolution Geological Map (scale 1: 50,000): A New Window into Structural Domains of the Quetta and Surrounding Areas. *Journal of Mountain Area Research*, 8, 27-48.
- 34- Kakar, A., Kassi, A. M., Benedetti, A., & **Kasi, A. K.** (2022). Stratigraphy and depositional environment of a mixed siliciclastic-carbonate platform and slope succession of the Paleogene Nisai Group, Pakistan. *STRATIGRAPHY*, 19(2), 95-117.
- 33- *Fareed, S., Kassi, A., Kasi, A., & Aysal, N. 2022*. Detrital composition of Triassic to Neogene sandstones in the Sulaiman Fold-Thrust Belt, Pakistan: implications for pre-and postcollisional evolution of the northwestern Indian margin. *Turkish Journal of Earth Sciences*, 31(4), 372-392.
- 32- *Kakar, S., Manan, A. R., Kasi, A. K., & Farooqui, M. A. 2022*. Microfacies Studies of the Jurassic Takatu Formation, western Sulaiman Fold-Thrust Belt, Pakistan. *Journal of Mountain Area Research*, 7, 14-22.
- 31- *Ahmed F., Kasi A. K., Mohibullah M., Manan R. A. 2021*. Petrology And Geochemistry Of the Late Cretaceous Pab Formation, Western Sulaiman Fold-Thrust-Belt, Pakistan: Implications For Provenance And Paleo-Weathering. *Journal of Mountain Area Research* 6, 45-62.
- 30- Shah, K. U., Kassi, A. M., & **Kasi, A. K.** **2021**. Lithostratigraphy of the Newly Proposed Middle Cretaceous “Bibai Group”, Western Sulaiman Fold-Thrust Belt, Pakistan. *Geological Behavior*, 5(2), 34-39.
- 29- *Ismail M., Kasi A. K., Manan R. A., Mohibullah M., Nisar Ahmed 2020*. Detrital modes in Lower Mesozoic sandstone of the Wulgai Formation (Pakistan): implications for provenance. *Journal of Himalayan Earth Sciences* 53, 34-51.
- 28- *Naseer M. , Kassi A. M., Kasi A. K., Kakar A., 2019*. Newly Proposed Lithostratigraphy of the Quaternary Succession of HannaSpin Karez Area, Quetta, Pakistan. *Journal of Himalayan Earth Sciences* 52, 217-224.

- 27- Ahmed Z., Akhtar M. M., **Kasi A. K.**, Ehsan M., Ibrahim M., Akhtar R., Rehman J. U. **2019**. Evaluation of Groundwater Vulnerability to Contamination by Drastic Risk Mapping in Quetta Valley, Balochistan. *Bahria University Research Journal of Earth Sciences* 4, 78-86.
- 26- Muhammad, B. Khan, S., Mohibullah, M. **Kasi, A. K.**, Jan, I. U., Ghani, M., Hussain, H. S. **2018**. Planktonic foraminiferal biostratigraphy and depositional setting of the Cretaceous Parh Limestone, Quetta, western Sulaiman Fold-Thrust Belt, Balochistan, Pakistan. *Journal of Himalayan Earth Sciences*, 51, 8-23.
- 25- Babar, N., Mohibullah, M., **Kasi, A. K.**, Ali, N., Khan, A. **2018**. Foraminiferal Biostratigraphy of the Eocene Kirthar Formation, western Sulaiman Fold-Thrust Belt, Balochistan, Pakistan. *Journal of Himalayan Earth Sciences*, 51, 66-77.
- 24- Rehaman, H., Mohibullah, M., **Kasi, A. K.**, Hussain, H. S. **2018**. Foraminiferal Biostratigraphy of the Dungan Formation, Harnai area, western Sulaiman Fold-Thrust Belt, Pakistan. *Journal of Himalayan Earth Sciences*, 51, 34-43.
- 23- Crupa W. E., Khan S. D., Huang J., Khan A. S., **Kasi A. K.**, **2017**. Active tectonic deformation of the western Indian plate boundary: A case study from the Chaman Fault System. **Journal of Asian Earth Sciences** 147, 452–468.
- 22- **Kasi, A. K.**, Kassi, A. M., Umar, M., Friis, H., Mohibullah, M., Manan R. A., **2017**. Paleogeographic and Depositional Model for the Neogene fluvial succession, Pishin Belt Northwest Pakistan: the effect of post collisional tectonics on sedimentation in peripheral foreland setting. **Acta Geologica Sinica-English Edition**, 92, 499-518.
- 21- Kassi, A. K., Bayraktar, H., Khan, S., **Kasi, A. K.** **2017**. Recurring emergence of the mud islands on shelf of the Arabian Sea along the Makran Coast of Pakistan - Historical perspective using remote sensing techniques. **Journal of the Geological Society of India**, 90, 201-208.
- 20- **Kasi, A. K.**, Kassi, A. M., Friis, H., Manan R. A., **2017**. Petrology and provenance of the Neogene fluvial succession in Pishin Belt (Katawaz Basin) western Pakistan: Implications for sedimentation in peripheral forelands basins. **Geosciences Journal**, 21(2), 149-166.
- 19- Huang J., Khan, S. D., Ghulam, A., Crupa, W., Abir, I., Khan, A., Kakar, D., **Kasi, A.**, Kakar, N. **2016**. Study of Subsidence and Earthquake Swarms in the Western Pakistan. **Remote Sensing** 8.11: 956
- 18- Kakar D. M., **Kasi, A. K.**, Kassi, A. M., Friis, H., Mohibulla M. **2016**. Petrography and Whole-Rock Geochemistry of the Oligocene-Miocene Khojak Formation Khojak-Pishin Belt, Pakistan: Implications on Provenance and Source Area Weathering. **Journal of Himalayan Earth Sciences** 49, 137-157.
- 17- **Kasi, A. K.**, Kassi, A. M., Friis, H., Umar M., Mohibulla, M., Kakar, M. I., **2016**. Detrital Mode and Whole-Rock Geochemistry of the Miocene-Pliocene Fluvial Succession, Pishin Belt, Pakistan: Implications on Provenance and Source Area Weathering in peripheral foreland basins. **Arabian Journal of Geosciences** 9(5), 1-21.
- 16- Bukhari, S. W. H., Mohibulla, M., **Kasi, A. K.**, Iqbal, H. **2016**. Biostratigraphy of the Eocene Nisai Formation in Pishin Belt, Western Pakistan. **Journal of Himalayan Earth Sciences**, **49**,

- 15- *Kassi, A. M., Grigsby, J. D., Khan, A. S., **Kasi, A. K.** 2015. Sandstone petrology and geochemistry of the Oligocene–Early Miocene Panjgur Formation, Makran accretionary wedge, southwest Pakistan: Implications for provenance, weathering and tectonic setting. **Journal of Asian Earth Sciences**, 105, 192-207.*
- 14- *Kakar, M. I., Mahmood, K., Arif, M., Khan, M., Kerr, A. C., Mohibullah, M., & **Kasi, A. K.** 2015. Petrology and geochemistry of mafic dykes from the Muslim Bagh Ophiolite (Pakistan): implications for petrogenesis and emplacement. **Turkish Journal of Earth Sciences**, 24(2), 165-178.*
- 13- ***Kasi, A. K.**, *Kassi, A. M., Friis, H., Kakar, M. I., Manan, R. A., 2014. Clay minerals assemblage in the Neogene fluvial succession of the Pishin Belt, Pakistan: implications for provenance. **Journal of Himalayan Earth Science**, 47(2), 63-73.**
- 12- *Kassi, A. M., Khan, S. D., Bayraktar, H., **Kasi, A. K.**, 2013. Newly discovered mud volcanoes in the Coastal Belt of Makran, Pakistan—tectonic implications. **Arabian Journal of Geosciences**, 1-11.*
- 11- *Kassi, A. M., **Kasi, A. K.**, Friis, H., Kakar, D. M., 2013. Occurrences of rock-fulgurites associated with steel pylons of the overhead electric transmission line at Tor Zawar, Ziarat District and Jang Tor Ghar, Muslim Bagh, Pakistan. **Turkish Journal of Earth Sciences**, 22, 1010-1019.*
- 10- *Kassi, A. M., **Kasi, A. K.**, McManus J., Khan, A. S., 2013. Lithostratigraphy, petrology and sedimentary facies of the Late Cretaceous-Palaeocene Ispikan Group, southwestern Makran, Pakistan. **Journal of Himalayan Earth Sciences**, 46, 49-63.*
- 9- *Kakar, M. I., Mahmood, K., Khan, M., **Kasi, A. K.**, Manan, R. A., 2013. Petrology and geochemistry of gabbros from the Muslim Bagh Ophiolite: implications for their petrogenesis and tectonic setting. **Journal of Himalayan Earth Sciences**, 46, 19-30.*
- 8- ***Kasi, A. K.**, *Kassi, A. M., Umar, M., Manan, R. A., Kakar, M. I., 2012. Revised Lithostratigraphy of the Pishin Belt, northwestern Pakistan. **Journal of Himalayan Earth Sciences**, 45, 53-65.**
- 7- *Kassi, A. M., **Kasi, A. K.**, Khan, A. T., Khan, A. S., 2012. Comments on the eruption of basaltic magma at Tor Zawar, Balochistan, Pakistan on 27 January 2010, with a discussion of the geochemical and petrological constraints on its petrogenesis. **Mineralogical Magazine**, 76, 717–723.*
- 6- *Manan, R. A., Kassi, A. M., **Kasi, A. K.**, 2012. Petrology and provenance of the sandstone channel succession within the Jurassic Loralai Formation, Sulaiman Fold-Thrust Belt, Pakistan. **Journal of Himalayan Earth Sciences**, 45, 1-16.*
- 5- *Kakar, M. I., Mahmood, K., Collins, A. S. Khan, M. Shah, M. T., **Kasi, A. K.**, 2012. Geochemistry and Petrogenesis of volcanic rocks from the Bagh complex, northern Balochistan, Pakistan. **Journal of Himalayan Earth Sciences**, 45, 17-29.*
- 4- *Kassi, A. M., Khan, A. S., Kelling, G., **Kasi, A. K.**, 2011. Facies and cyclicity within the Oligocene-Early Miocene Panjgur Formation, Khojak–Panjgur Submarine Fan Complex, south-west Makran, Pakistan. **Journal of Asian Earth Sciences**, 41, 537- 550.*

- 3- Umar, M., Friis, H., Khan A., S., Kassi, A., M., **Kasi A., K.**, 2010. The effects of diagenesis on the reservoir characters in sandstones of the Late Cretaceous Pab Formation, Kirthar Fold Belt, southern Pakistan. **Journal of Asian Earth Sciences**, 40, 622–635.
- 2- Kassi, A., M., Kelling G., **Kasi A., K.**, Umar, M., Khan A., S., 2009. Contrasting Late Cretaceous–Palaeocene lithostratigraphic successions across the Bibai Thrust, western Sulaiman Fold–Thrust Belt, Pakistan: Their significance in deciphering the early- collisional history of the NW Indian Plate margin. **Journal of Asian Earth Sciences** 35, 435–444.
- 1- Kassi, A., M., Khan A., S., **Kasi A., K.**, 2007. Newly proposed Cretaceous-Palaeocene lithostratigraphy of the Ispikan-Wakai area, southwestern Makran, Pakistan. **Journal of Himalayan Earth Sciences**, 40, 25-31.

CONFERENCE PROCEEDINGS

- 8- Fareed S., Kasi A. K., Kassi A. M. and Aysal N., 2022. Pre- and post-collisional sandstone assemblages of the Sulaiman Fold-Thrust Belt, Pakistan: Implications for tectonic evolution. 6th international conference on Earth Sciences Pakistan 2022, 32
- 7- Rehman, F., **Kasi, A. K.**, and Mohibullah, M., 2018. Lithofacies Association and Depositional Environment of Bostan Formation, Pishin belt, Balochistan, Pakistan. 5th international conference on Earth Sciences Pakistan 2018. *Journal of Himalayan Earth Sciences, Proceedings*.
- 6- Manan, R. A., Khan, A. S., Farooqui, M.A., **Kasi A. K.** 2017. Depositional Environment of Dilband Ironstones, Kalat District, Pakistan. International Conference on Mining & Fuel Industries (CMFI-2017) Karachi. Abstract volume
- 5- **Kasi, A. K.**, Kassi, A. M, Friis, H., Umar Muhammad, Mohibullah, M., Kakar, M. I. 2016. Petrology and Geochemistry of the Miocene-Pliocene Fluvial Succession, Katawaz Basin, Western Pakistan: Implications on Provenance and Source Area Weathering Pakistan. 4th international conference on Earth Sciences Pakistan 2016. *Journal of Himalayan Earth Sciences, Proceedings*.
- 4- **Kasi, A. K.**, Kassi, A. M, Friis, H., Umar Muhammad, 2014. Lithofacies Associations and Depositional Environments of the Neogene Siliciclastic Succession, Pishin Belt, Pakistan. 3rd international conference on Earth Sciences Pakistan 2014, *Journal of Himalayan Earth Sciences, Proceedings*.
- 3- **Kasi, A. K.**, Kassi, A. M, Friis, H., Manan, R. A., 2012. Sandstone and conglomerate petrology of the Neogene succession, Pishin Belt, northwestern Pakistan. 2nd international conference on Earth Sciences Pakistan, *Journal of Himalayan Earth Sciences, Proceedings* 45, (2), 70.
- 2- Manan, R. A., Kassi, A. M., Friis, H., **Kasi, A. K.**, 2012. Geochemistry of the sandstone of Jurassic Loralai Formation, Sulaiman Fold-Thrust Belt, Pakistan: Implications for provenance and source area weathering. 2nd international conference on Earth Sciences Pakistan, *Journal of Himalayan Earth Sciences, Proceedings* 45, (2), 40.
- 1- Kassi, A. M., **Kasi, A. K.**, Friis, H., Kakar, D. M., 2012. The study of basaltic magma eruption at the Tor Zawar, Ziarat, Pakistan. 2nd international conference on Earth Sciences Pakistan *Journal of Himalayan Earth Sciences, Proceedings* 45, (2), 71.

RESEARCH PROJECTS

Co-Principal Investigator: Neotectonic and Earthquake-Hazard Studies of the Chaman Fault, Western Pakistan (2013-2016; Collaboration with University of Houston, USA). Funded by HEC Pakistan & NSF USA.

SUPERVISION EXPERIENCE

Ph.D. thesis co-supervised:

1. Petrology, Detrital Modes and Geochemistry of the Sandstones of Jurassic through Pleistocene successions, in the Western Sulaiman Fold-Thrust Belt, Pakistan (Ph.D. Scholar: Shazia Fareed, 2023)

M.Phil theses supervised/co-supervised:

17. Provenance and Depositional Environment of the Pleistocene Bostan Formation, Bostan Area, Balochistan, Pakistan (M.Phil. scholar: Usman Ghani, 2024)
16. Carbonate microfacies and depositional environment of the Dungan Formation, Kohlu and Barkan area, Sulaiman Fold-Thrust Belt, Balochistan, Pakistan (M.Phil. Scholar: Shams Ul Alam, 2024)
15. Carbonate Microfacies and Depositional Environment of Nisai Formation, Kohlu and Barkan area, Pishin Belt, Balochistan, Pakistan (M.Phil. Scholar: Abdullah, 2023)
14. High-resolution structural analysis of the quetta syntaxis and adjacent areas: using field and remote-sensing methods (MPhil Scholar: Nisar Ahmed)
13. Microfacies studies of Jurassic Takatu Formation, wester Sulaiman Fold- thrust Belt, Pakistan (MPhil scholar: Saboor)
12. Composition and Provenance of Upper Cretaceous Pab Formation Western Sulaiman Fold-Belt Pakistan (MPhil Scholar: Farooq Ahmed)
11. Lithostratigraphy of the Bibai Group, Kach-Ziarat and Spera Ragha-Chinjun Valleys, Western Sulaiman Fold-Thrust Belt, Pakistan (MS Scholar: Kiffayat Shah)
10. Detrital Modes and Provenance of the Jurassic Sandstone in Western Sulaiman Fold Thrust-Belt, Pakistan (MS Scholar: Muhammad Ismail)
9. Stratigraphy and Sedimentology of the Quaternary succession of the Hanna Spin Karez area, Quetta District, Pakistan (MS Scholar: Naseer Kakar)
8. A GIS-based DRASTIC Model Used to Assess Aquifer Vulnerability in Quetta Valley, Balochistan (MS Scholar: Zubair Ahmed)
7. Development and Evolution of Alluvial Fan System along Chaman Fault (Scholar: Muhammad Ashraf)
6. Foraminiferal Biostratigraphy of Parh Limestone, western Sulaiman Fold-Thrust Belt, Balochistan, Quetta district, Pakistan (Scholar: Baz Muhammad,)
5. Foraminiferal Biostratigraphy of Dungan Formation, western Sulaiman Fold-Thrust Belt, Balochistan, Pakistan. (Scholar: Habib ur Rehman,)
4. Biostratigraphy of Kirthar Formation, western Sulaiman Fold-Thrust Belt, Balochistan, Pakistan (Scholar: Najeeb Babar,)
3. Biostratigraphy and micro-facies of the Nisai Formation, Qilla Saifullah district, Pishin Belt, Pakistan (Scholar: Wajid Hanif Bukhari)
2. Sandstone Petrology and Provenance of the Urak Group, Zarghun Trough, Balochistan, Pakista. (Scholar: Rahim Ud Tareen)
1. Sandstone Petrology and Provenance of the Eocene Ghazij Formation around Zarghun Trough, NE of Quetta, Pakistan (Scholar: Tahir Iqbal).

TEACHING EXPERIENCE

Advanced Structure Geology and Tectonics
Sedimentology & Facies Analysis
Research Methodology & Scientific Writing

INTERNATIONAL EXPERIENCE

USA, Denmark, Spain, and Germany

LANGUAGE

Urdu, Pashto & English (TOEFL IBT: 98/120)

REFERENCES

Dr. Shuhab Danishwar Khan sdkhan@central.uh.edu
Professor, Department of Earth and Atmospheric Sciences, University of Houston, USA

Dr. Akhtar Muhamad Kassi amkcem1@gmail.com
Professor Emeritus, Department of Geology, University of Balochistan, Quetta, Pakistan