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**CURRICULUM VITAE**


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Name: Prof. Dr. Muhammad Ishaq Kakar

Designation: Director

Institution: Centre of Excellence in Mineralogy,  
University of Baluchistan,  
Quetta, Pakistan.

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**Higher Qualification**


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- **Ph.D.:** University of Baluchistan, Quetta, Pakistan (2012).
- **Postdoctoral Award:** Six months postdoctoral (Endeavour Research) Fellowship, University of Adelaide, South Australia, 2015. This fellowship was awarded to me by the Department of Education, Commonwealth of Australia.
- **IRSIP Award:** Six months fellowship titled: “International Research Support Initiative Program (IRSIP)” awarded by Higher Education Commission (HEC), Pakistan, in the University of Adelaide, Australia, 2009.
- **Talent/ Training Award:** Three months of training titled: “Talent/Training program for technical/Scientific staff and researchers” in the National Centre of Excellence in Geology, University of Peshawar, Pakistan, 2009.

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**Research Interest**


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I am an Igneous Petrologist and am working on the petrogenesis of igneous rocks. My research focuses mainly tectonic setting of ophiolites in Pakistan, the magmatic evolution of the Chagai-Ras Koh Island arc, petrogenesis of hotspot-related intrusive, and extrusive Igneous rocks exposed particularly in Baluchistan, Pakistan. I have also worked on metamorphic sole rocks associated with ophiolites and have also switched to work on the mineralization associated with both ophiolite belts and island arcs.

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**Courses Teaching**


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Applied Mineralogy, Research Methodology and Technical Writing, Igneous and Metamorphic Petrology and Geochemistry

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**Work Experience**


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- **Director,** Centre of Excellence in Mineralogy, University of Baluchistan, Quetta, Pakistan from February 19, 2024, to present.
- **Acting Director,** Centre of Excellence in Mineralogy, University of Baluchistan, Quetta, Pakistan from February 10, 2019 to February 18, 2024.
- **Full Professor,** Centre of Excellence in Mineralogy, University of Baluchistan, Quetta, Pakistan, from January 22, 2019 to present.
- **Associate Professor,** Centre of Excellence in Mineralogy, University of Baluchistan, Quetta, Pakistan, from August 2015 to December 2018.
- **Assistant Professor,** Centre of Excellence in Mineralogy, University of Baluchistan, Quetta, Pakistan, from July 2007 to July 2015.
- **Lecturer,** Department of Geology, University of Baluchistan, Quetta, Pakistan, from May 2003 to June 2007.

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**M.Phil. and PhD Thesis Produced**


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M.Phil. = 20  
PhD = 2

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**MSc. Thesis Co-Supervised with my collaborator in the UK**

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- Petrogenesis of Plagiogranitic Dykes and Irregular Inclusions from the Sheeted Dyke Complex of the Muslim Bagh Ophiolite, Northwestern Pakistan, by Owain Mostyn Lavis in the School of Earth and Ocean Sciences, Cardiff University, Wales, UK, (2015).
- Geochemistry and Petrogenesis of Igneous Intrusions within the Eocene Nisai Formation of the Muslim Bagh Region, Pakistan, by Daniel Cox in the School of Earth and Ocean Sciences, Cardiff University, Wales, UK, (2014).

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### **Funding Won and Applied**

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- Geology, Petro-chemistry, and Tectonic Setting of Zhob Valley Ophiolites, northwestern Pakistan of **Rs. 3,287,562/-** for the years 2016-2019. HEC National Research Program for Universities (NRPU) Funded Project (Completed).
- Timing of India-Eurasia Collision: Age, Geochemical and Paleomagnetic Study on the Bela–Zhob Valley–Waziristan Suture Zone, Central Pakistan. A collaborative project with the Institute of Geology and Geophysics, Chinese Academy of Sciences (IGG-CAS), Beijing, China. PI Dr. Muhammad Ishaq Kakar from Pakistan side. (Submitted to China Natural Science Foundation Under Review).
- Economic and Environmental Sustainability of Mineral Resources of Khyber Pakhtunkhwa and Balochistan: Implications for Industrial and Institutional Development. This project is led by NCEG-UoP, CEM is a collaborator and participant from Balochistan. Higher Education Development in Pakistan (HEDP) Project; The Center of Excellence (CoE) Grants.
- Metallogeny and Mineralization Potential of the Chagai Hills Granitoids, Western Pakistan. Higher Education Commission, Pakistan CPEC – COLLABORATIVE RESEARCH GRANT. PI Dr. Inayat Ullah and Co-PI Dr. Muhammad Ishaq Kakar (Under Review).
- Petrology and Geochemistry of Alkali Granite from Khuzdar area, Balochistan, Pakistan; Implications for its petrogenesis and Tectonic setting. A collaborative project between the Centre of Excellence in Mineralogy and the Department of Earth and Environmental Sciences, Kagoshima University, Kohrimoto 1-21-35, Kagoshima 890-0065, Japan. 2023-28 under Japanese Government MEXT Research Grant. (Research work Started).
- Investigating the effects of enhanced weathering of peridotites from Oman and Pakistan on ocean pH: Implications for mitigation of ocean acidification. A joint project of the Centre of Excellence in Mineralogy (Dr. Ishaq Kakar, Dr. Inayat Ullah Dr. Ayoub) and Earth Science Centre, Sultan Qaboos University, Muscat, Oman. (Dr. Arshad Ali). (Research work Started).

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### **PhD/M.Phil. thesis currently under my supervision**

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- Petrology, Geochemistry and Structural Fabrics of Igneous Intrusions in the Neo-Tethyan Sediments of Sulaiman-Kirthar Fold-Thrust Belts, Balochistan, Pakistan (Muhammad Panezai, PhD student- 2022-25).
- Petrology, Geochemistry, and Tectonic Evolution of the Khanozai Ophiolite, northwestern Pakistan (Naseer Uddin, Ph.D. student- 2023-26).
- Petrology of Ultramafic Cumulates and Origin of Magmatic Iron in the Crustal Section of Khanozai Ophiolite, Northern Balochistan (Sajawal Bayan, M.Phil. student- 2020-23).
- Geological and mineralogical characteristics of Surmai Lead- Zinc deposits District Khuzdar, Pakistan (Abdul Razzaq, M.Phil. student- 2020-23).
- Geology and Petrography of Mafic Dikes and Mafic Microgranular Enclaves at Amuri Area of Chagai Magmatic Arc, Balochistan, Pakistan (Imdad Ali, M.Phil. student- 2020-23).

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### **Collaborations Established**

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1. National Centre of Excellence in Geology (NCEG), University of Peshawar.
2. Geological Survey of Pakistan, Quetta (GSP).
3. Department of Earth Sciences, Karakoram International University Gilgit-Baltistan.
4. Directorate General of Mines and Minerals (DG MM), Balochistan.
5. Saindak Metals Ltd. (SML), Quetta.
6. Bolan Mining Enterprise, Quetta.
7. Pakistan Petroleum Limited, Karachi

8. School of Earth and Ocean Sciences, Cardiff University, Cardiff, UK.
9. Department of Earth and Environmental Sciences, Kagoshima University, Kohrimoto 1-21-35, Kagoshima 890-0065, Japan
10. Institute of Geology and Geophysics, Chinese Academy of Sciences (IGG-CAS), Beijing, China.
11. Kunming University of Science and Technology, China.
12. Department of Earth Sciences, University of Adelaide, South Australia.
13. Sultan Qaboos University, Muskat, Oman.

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#### Key Publications in the HJRS W-category journals

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1. Ullah, I., Xue, C., **Kakar, M. I.**, Xie, Z., Wang, W., Ghaffar, A., & Ullah, N. 2021. Petrological and geochemical characterization of metamorphic sole rocks beneath the RasKoh ophiolite, western Pakistan: Implication for a Late Cretaceous supra-subduction zone-type forearc. *Geological Journal*. Doi.org/10.1002/gj.4264.
2. Khan, M. A., **Kakar, M. I.**, Ulrich, T., Ali, L., Kerr, A. C., Mahmood, K., & Siddiqui, R. H. 2020. Genesis of Manganese Deposits in the Ali Khanzai Block of the Zhob Ophiolite, Pakistan: Inferences from Geochemistry and Mineralogy. *Journal of Earth Science*, 31(5), 884-895.
3. Khan, M. A., Ulrich, T., **Kakar, M.I.**, Akmaz, R.M., Ali, L., 2020. Genesis and geotectonic setting of podiform chromitites from the Zhob Valley Ophiolite, Pakistan: Inferences from chromite composition, *Episodes*, 43(4), 1017-1039.
4. Muhammad, D., Durrani, R. A. M., Kassi, A. M., **Kakar, M. I.**, 2019. Petrology and Geochemistry of Dolerite and Lamprophyre Sills in Mesozoic Successions of Khanzai–Muslim Bagh Area, Northwestern Pakistan. *Arabian Journal of Geosciences*, 12(8), 1-12.
5. Cox, D., Kerr, A. C., Hastie, A. R., **Kakar, M.I.**, 2018. Petrogenesis of plagiogranites in the Muslim Bagh Ophiolite, Pakistan: Implications for the generation of Archaean continental crust. *Geological Magazine*, 156(5), 874-888.
6. Siddiqui, R. H., Jan, M. Q., Khan, M. A., **Kakar M.I.**, Foden, J.D., 2017. Petrogenesis of the Late Cretaceous tholeiitic volcanism and oceanic arc affinity of the Chagai Arc, Western Pakistan. *Acta Geologica Sinica (English Edition)*, 91 (4), 1248–1263.
7. Kerr, A. C., Lavis, O, **Kakar, M.I.**, McDonald, I. 2016. Petrogenesis and tectonomagmatic significance of Eocene mafic intrusions from the Neo-Tethyan suture zone in the Muslim Bagh-Khanzai region, Pakistan. *Journal of the Geological Society*, 173, 518–530.
8. **Kakar, M. I.**, Kerr, A. C., Collins, A. S., Mahmood, K., Khan, M., McDonald, I., 2014. Supra-subduction zone tectonic setting of the Muslim Bagh Ophiolite, northwestern Pakistan: insights from geochemistry and petrology. *Lithos*, 202-203: 190–206.
9. **Kakar, M.I.**, Collins, A.S., Mahmood, K., Foden, J.D. and Khan, M. 2012. U-Pb Zircon Crystallization Age of the Muslim Bagh Ophiolite: Enigmatic Remains of an Extensive Pre-Himalayan Arc, *Geology*, 40 (12), 1099-1102.

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#### Key Publications in the HJRS X and Y-category journals

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10. Khan, M. A., Ulrich, T., **Kakar, M. I.**, Metwaly, M., Naeem, A., & Fareed, S. 2023. Geology, mineralogy, and geochemistry of Naweoba and Bagh Cyprus-type VMS deposits of the Late Cretaceous Zhob Valley Ophiolites, Pakistan: implications for genesis. *Arabian Journal of Geosciences*, 16(10), 580.
11. Ghani, M., Raynolds, R., Ullah, R., Mohibullah, M., & **Kakar, M. I.** 2022. Museum of Earth Sciences of the Geological Survey of Pakistan (MESGSP): a Potential Geotourism Attraction. *Geoheritage*, 14(4), 1-18.
12. Naeem, A., **Kakar, M. I.**, Siddiqui, R. H., Kerr, A. C., Jan, M. Q., & Khan, M. A. 2022. Geology and petrogenesis of gabbro from the Zhob Ophiolite, Balochistan, Pakistan. *Arabian Journal of Geosciences*, 15(13), 1-20.
13. Khan, S., Ghaffar, A., Ullah, I., Murad, F., Ahmed, J., & Kakar, M. I. 2021. A Case Study on Distribution of Gemstone in Bela Ophiolite, District Khuzdar, Balochistan. *International Journal of Economic and Environmental Geology*, 12(4), 1-10.
14. Naeem, A., Kerr, A. C., **Kakar, M. I.**, Siddiqui, R. H., Khan, M. A., & Ahmed, N. 2021. Petrology and geochemistry of volcanic and volcanoclastic rocks from Zhob ophiolite, North-Western Pakistan. *Arabian Journal of Geosciences*, 14(2), 1-19.
15. **Kakar, M.I.**, Khan, M., Mahmood, K., Kerr, A. C., 2014. Facies and distribution of metamorphic rocks beneath the Muslim Bagh Ophiolite, (NW Pakistan): tectonic implications. *Journal of Himalayan Earth Sciences*, 47 (2): 115-124.
16. **Kakar, M.I.**, Mahmood, K., Khan, M., Kasi, A. K., and 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(1), 19-30.