

## **CURRICULUM VITAE**

### **DR. MOHAMMAD TAHIR SHAH T.I.**

**DESIGNATION:** Professor and Director  
**ORGANIZATION:** NCE in Geology, University of Peshawar (UoP), Pakistan: an institution of higher learning and research having Administrative and Financial autonomy under the Act of Parliament 1976. Run under the Board of Governor where Director is the Principal Accounting Officer and Secretary of the Board and Vice Chancellor (UoP) is the Chairman of the Board.

**OFFICE ADDRESS:** NCE in Geology, University of Peshawar, Peshawar, Khyber Pakhtunkhwa, Pakistan

**HOME ADDRESS:** H-C47, Ayub Manzil, St # 3, Canal Town, Nasir Bagh Road, Peshawar

**Phone:** Res = (091) 5850124; Off = (091) 9218182; Fax = (091) 9218183;

Mobile = 03339129958

**E-mail:** [tahir\\_shah56@yahoo.com](mailto:tahir_shah56@yahoo.com); [tahir\\_shah@upesh.edu.pk](mailto:tahir_shah@upesh.edu.pk)

#### **PERSONAL**

**Date of birth:** July 20, 1956

**Domicile:** Haripur, Khyber Pakhtunkhwa

**Marital status:** Married

#### **EDUCATION**

**Fulbright Post-Doctoral Fellowship** for research in the University of Nevada, Reno, USA (1999-2000)

**Host Scientist:** Dr. Paul Lechler, Geochemist, Nevada Bureau of Mines and Geology, University of Nevada, Reno, USA

**Research topic:** Litho and stream sediments geochemical investigations in the Dir and Swat Kohistan, northern Pakistan.

**Commonwealth Post-Doctoral Fellowship** in the Department of Geology, University of Leicester, UK (2001-2002)

**Host Scientist:** Dr. C.J. Moon, Professor, Department of geology,

**Ph.D.**, November 1991, University of South Carolina Columbia, U.S.A (8/87-11/91).

**Major advisor:** Dr. John W. Shervais, Professor, University of South Carolina, Columbia, SC 29280, USA

**Dissertation:** Mineralogy, Petrology and Geochemistry of the Sulfide Mineralization and associated rocks in areas around Besham and Dir, Northern Pakistan.

**M.Phil.**, May, 1986, University of Peshawar, Pakistan (8 /83-6/86).

**Major advisor:** Dr. Mohammad Majid, Professor, University of Peshawar, Pakistan.

**Thesis:** Petrochemistry of Shergarh Sar Complex, Allai Kohistan.

**M.Sc.**, July, 1981, University of Peshawar, Pakistan (7/79-7/81).

**Major advisor:** Dr. Mohammad Majid, Professor, University of

Peshawar, Pakistan.

**Thesis:** Major element abundance in the Kalam lavas.

University of Leicester, UK

**Research topic:** Mineralogy and geochemistry of the manganese ores from Pakistan.

## EMPLOYMENT and PROFESSIONAL EXPERIENCE

### A. ACADEMIC AND RESEARCH EXPERIENCE

- Working as **Professor** in the National Centre of Excellence in Geology (NCEG), University of Peshawar from 13-02-2002 to 17-05-2009 in BPS-21, from 18-05-2009 to 22-04-2013 as **Tenured Track Professor** and from onward as **Full Tenured Professor**
- Worked as **Associate Professor** in the National Centre of Excellence in Geology (NCEG), University of Peshawar from 19-03-1995 to 12-02-2002.
- Worked as **Assistant Professor** in the National Centre of Excellence in Geology (NCEG), University of Peshawar from 19-08-1992 to 18-03-1995.
- Worked as **Junior Research Fellow/Lecturer** in the National Centre of Excellence in Geology (NCEG), University of Peshawar from 24-01-1982 to 18-08-1992.
- **Research and teaching** experience for more than **33 years** covering various subjects in the field of Economic Geology, Exploration Geochemistry, Igneous petrology, Geochemistry, Exploration Geochemistry, and Environmental Geosciences.
- Experience in carrying out **consultancies** in private / public sector in regard to mineral development.
- **Refereeing** of research papers for various national and international research Journals.
- Remained **Editor** of Geological Bulletin and Journal of Himalayan Earth Sciences from 2006 to 2014 and of Journal of Science and Technology, University of Peshawar from 2002 to 2007.
- **Experience on various instruments** including flame and electrothermal Atomic absorption spectrophotometer (AA), Inductively Coupled Plasma spectroscopy (ICP), X-ray Fluorescence, UV-Visible Spectrophotometer, Electron microprobe, Crushing and powdering equipment, Computer and GIS, Polarizing and ore microscopy.
- Worked as **analyst in the Geochemistry Laboratory**, Department of Geology, University of Washington, USA (1/89-4/89).

### B. ADMINISTRATIVE and MANAGERIAL EXPERIENCE

- Presently working as **Director** of the internationally known National Centre of Excellence in Geology, University of Peshawar since October, 2013 whereby I am the Principal Accounting Officer and am responsible for management of administrative, academic and financial matters of the Centre. I am also responsible for the smooth running of ECNEC approved PC-1 project of Rs. 800 million which involves civil work, human resource development and up-gradation of laboratories.
- Working as **Principal Investigator** of 30 months (2012-2015) Project “Regional Geo-chemical Exploration for Precious Metals in Southern Parts of Khyber Pakhtunkhwa” worth of Rs. 33.99 million which is near to completion and is funding by the Directorate General Mine and Minerals, Mineral Department, Khyber Pakhtunkhwa.

- Worked as **Principal Investigator** of three years (2011-2014) Project “*Integrated Geological, Geochemical and Remote Sensing Data for Finding Source Rocks for Gold in the Northern Areas of Pakistan*” worth of \$370,000/- under the Pak-US Science and Technology Collaboration Program. It has been completed successfully. It was funded by HEC and US-State Department.
- Worked as **Project Director** (2004-2006) of the HEC funded project “*up-gradation/strengthening of the laboratories of the NCE in Geology*” worth of 36.954 million rupees. It was completed in time very efficiently.
- Played an important role in the preparation, management and implementation of the **ECNEC approved PC-1 scheme** “*Strengthening of the National Centre of Excellence in Geology, University of Peshawar*” worth of **Rs. 800 million** from 2005.
- Worked as **Acting Director** for short duration several times during the absence of Director of the NCE in Geology, University of Peshawar from 2005-2013.
- Remained **Graduate Student Advisor** from 1997-2013 whereby I was independently dealing with all the academic activities of the post-graduate students of the NCE in Geology, University of Peshawar. This involved management of academic affairs including conduct of the post-graduate admissions and examinations and the curriculum development under the semester system according to the market and industrial demand.
- Remained **Chairman Purchase Committee** from 1994-2006 whereby I dealt with all sorts of purchases. This involved tendering, preparation of comparative statements and purchasing of the items.
- Worked as **Co-Graduate Student Advisor** from 1992-1997 whereby I was assisting the Graduate Student Advisor and the Director on academic matter.
- Remained **Co-Principal Investigator** (from Pakistani side) of the **US National Science Foundation** funded project on “*Collaborative Research: Towards a better understanding of the collisional history of the Pakistan Himalaya*” from 2004-2006.
- Remained **Co-Principal Investigator** of the **USAID project** on “*Review of the analytical processes at Khawaja Glass industries Hassan Abdal*” from 1992-1994.
- Remained **Coordinator** of the four **Institutional Excellence Projects (IEP)** funded by **USAID**, which were launched to promote relationship between the universities and industry in Pakistan. Work included writing up of proposal (worth \$366,000); Project approval and successful completion.
- Remained **Co-Principal Investigator** of the PSF funded Project No. F-PU/EARTH 50 (worth of 0.4 m) entitled “*Crustal evaluation of the Kohistan island arc. Study of structure, lithostratigraphy and volcanism in arc- related environment*” from 1994 to 1997.
- Remained **In-charge Geochemistry Laboratory** from 1992 to 2013 whereby I dealt with management of Geochemistry laboratory and establishing of new techniques for the rapid analyses of rocks, minerals, soils and water through sophisticated instruments. The researchers throughout Pakistan have published large number of data acquired from this lab.
- Remained **In-charge rocks and minerals crushing and processing laboratory** from 1992 to 2013.

## AWARDS

- **Civil Award (Tamgha-e-Imtiaz)** was awarded by the President of Pakistan in the field of Science on the Eve of August 14, 2014 and the medal was decorated on me by the Governor of Khyber Pakhtunkhwa, Mr. Sardar Mehtab Amed Khan Abbasi, on March 23, 2015 in a ceremony held in the Governor house.

- Received **Presidential award (Izaz-I-Fazeelat)** on academic distinction from President of Pakistan in 2001.
- Received the **PAS Gold Medal 2005** from the Pakistan Academy of Sciences, Government of Pakistan in recognition of the outstanding research in the field of Earth Sciences on December 24, 2005.
- Received **Earth Scientist of the year 1994-995** award from National Book Foundation, Ministry of Education, Government of Pakistan.
- Received the **Star Laureate award** and **Dr. Zafar H. Zaidi Gold Medal** for the year 2006 from the South Asia Publications (SAP) in recognition of my credentials par excellence in the field of education and my name has been included in the SAP's prestigious profile book titled "**WHO's WHO in Pakistan**".
- Received **Research Productivity award** for years 2003-2005 and 2011-2013 from the Council of Science and Technology, Government of Pakistan.
- Received **Research Excellence award 2011** from the Faculty of Life and Environmental Sciences, University of Peshawar.
- Received the **IUCN-Environmental Award in academia** for the year 2000-2001 from the Sarhad Provincial Conservation strategy (SPCS).
- Received **Commonwealth Post-Doctoral Fellowship** award for year 2000-2001 and completed one-year research at the University of Leicester, UK.
- Earned **Fulbright Post-Doctoral Fellowship** award for year 1999-2000 and completed nine months Fulbright tenure at the University of Nevada, Reno, USA.
- Received **Honorary Citizenship** of the city of Memphis, Tennessee (USA) and key to the city (1988)
- Received **Honorary Memphis City Councilman**, Tennessee (USA) (1988).
- Received **USAID Thomas Jefferson Fellowship** award for four years for the completion of Doctoral research at the University of South Carolina, Columbia, USA.

## HONORS

- Selected as member of the **Board of Faculty of Sciences**, University of Swabi, Hkyber Pakhtunkhwa (2015-2018).
- Got **top position** consecutively in 2011-2014 in the field of Earth Sciences as mentioned in the Book "**Productive Scientists of Pakistan**" published by the Pakistan Council of Science and Technology, Islamabad.
- Selected as **member of the Departmental Tenure Review Committee (DTRC)** of the Department of Geography, University of Peshawar on March 19, 2015.
- Selected as **member of the Board of Studies** of Geology, University of Poonch, Rawalakot, Azad Jammu and Kashmir (September, 2014)
- Selected as **member of the Board of Studies** of Geology Department, University of Haripur, Khyber Pakhtunkhwa, (September, 2014)
- Selected as **member of the Board of Directors** of the Khyber Pakhtunkhwa Oil and Gas Company Limited (KP OGCL) (May, 2014)
- Selected as **member of the Board of Studies** of the Department of Earth Sciences, Quaid-i-Azam, University, Islamabad (January 2014)
- Selected as **member of the Committee for Revision of Research Productivity Award** by the Pakistan Council for Science and Technology, Islamabad, (2013).

- Selected as **member of the Ph.D. Review Committee** for Khyber Pakhtunkhwa and Baluchistan Region by the Higher Education Commission, Islamabad (January 4, 2013).
- working as **Reviewing Editor** of the international journal of **Environmental Geotechnics**.
- Working as **Chief-Editor** of the Journal of Himalayan Earth Sciences, University of Peshawar.
- Remained **sub-Editor** of the Journal of Science and Technology, University of Peshawar.
- Selected as **member of the Board of Studies of Department of Environmental Sciences**, of COMSTATS Institute of Information Technology, Abbottabad (January, 2012).
- Selected as **member of the Board of Studies of Department of Meteorology**, of COMSTATS Institute of Information Technology, Islamabad for (August, 2011).
- Shortlisted for interview by the Search Committee for the position of **Vice-Chancellor of Hazara University** (2010).
- Selected as **member Expert working Group on Development of Mineral Wealth for 10<sup>th</sup> Five year plan 2010-15** by the Planning Commission, Government of Pakistan (August, 2009).
- Nominated as **subject expert** by HEC on the **Board of Governors** of Centre of Excellence in Mineralogy, Quetta (January, 2009).
- Selected as **member of the Steering Committee** of the project PC-11 Source rock mapping and investigation for hydrocarbon in FATA (August, 2008).
- Nominated as **member of the National Curriculum Revision Committee** on Geology by the Higher Education Commission, Islamabad (March 2008)
- Elected as the **Senior Vice President** of the National Geological Society of Pakistan for the years 2006 to 2008.
- Selected as **member of the Board of Faculties of Social Sciences** of the Frontier Women University, Peshawar (March, 2007).
- Selected as a member of the **Advisory Committee** for Development of **Chromite and Gypsum** in NWFP and FATA by the Industries and Mineral Division, NWFP (August, 2007).
- Remained as **member of the Board of Studies** of (1) Applied Geology of the Institute of Geology University of Azad Jammu and Kashmir, (2) Department of Geology, University of Peshawar, (3) Department of earth Sciences, University of Sagodha and (4) Centre for Pure and Applied Geology, University of Sindh, Jamshoro.
- Selected as **member of the Peshawar University Reform Committee** for Examination.
- Elected as **Treasurer of Pakistan Student Association**, University of South Carolina, Columbia, USA for two years (1989-1991).
- **First M.Phil Post-graduate** in Geology from University of Peshawar in 1986.

## **FIELDS OF INTEREST**

- Economic Geology
- Exploration Geochemistry
- Applied Geology
- Igneous petrology
- Gemology
- Environmental Geosciences

## **ESTABLISHMENT OF STATE OF THE ART LABORATORY FACILITIES**

As being the in-charge of the Geochemistry laboratory of the NCE in Geology, University of Peshawar, I have established quick and reliable analytical techniques for rocks, minerals, ores, soils, plants and water analyses by using sophisticated instruments including the Atomic Absorption (both flame and flameless) and CHNS elemental analyzer. This laboratory was upgraded by receiving funding of Rs. 36 million from the HEC through a PC-I scheme. It is now among the few geochemical laboratories of Pakistan where geochemical work is carried out with good precision. This laboratory has performed multi-element analyses for thousands of rocks, soils, plants and water samples for public and private sector organizations in Pakistan and hence played a major role in the uplift of the research activities and development within the country.

## **COLLABORATIVE LINKAGES ESTABLISHED**

- Initiated collaborative linkage through MoU with Ministry of Natural Resources and Environmental Protection of the Republic of Belarus and will be signed soon.
- Initiated linkages with the through MoU with the International University, Gilgit and University of Swabi, Khyber Pakhtumkhwa and will be signed soon.
- A collaborative linkage through MoU was established with University of Haripur, Khyber Pakhtunkhwa in 2014.
- A collaborative linkage was established with the Department of Earth and atmospheric Sciences, University of Houston, USA during year 2010 for three years under the Pak-US Joint Academic and Research Program.
- A collaborative linkage was established with the Department of Geosciences, Idaho State University, USA and Department of Geology, University of Kansas, USA during year 2003 for three years under the Pak-US collaborative Research Program.
- A collaborative linkage was established with the Nevada Bureau of Mines and Geology, University of Nevada, Reno, USA during year 1999-2000 for carrying out research on Geochemical Exploration in Dir-Kohistan.
- A collaborative linkage was established with the Department of Geology, University of Leicester, UK during year 2001-2002 for carrying out research on the Manganese deposits of Pakistan.

## **PAST RESEARCH PROJECTS**

- Collaborative Project: "Integration of Geological, Geochemical and Remote Sensing Data for finding Source Rocks for Gold in the Northern Areas of Pakistan under Pak-US Joint Academic and Research Program". (funding by HEC and US-state Department).
- Collaborative Research: "Towards a better understanding of the collisional history of the Pakistani Himalayas: inference from remote sensing, geochronology and isotopic data from Kohistan terrane" (funding by NSF, USA)
- Mineralogy, geochemistry and genesis of the manganese deposits of Waziristan, Pakistan (funded by NCEG).
- Mineralogical and geochemical studies of ultramafics, mafics, volcanics and metamorphic rocks along the Main Mantle Thrust (MMT), Allai kohistan, northern Pakistan (funded by former UGC).
- Crustal evaluation of the Kohistan island arc. Study of structure, lithostratigraphy and volcanism in arc-related basing (as co-investigator in PSF funded Project No. F-PU/EARTH 50 (funded by PSF)).
- Mineralogy of the heavy mineral concentrates of placers and extraction of placer gold in the Bagrot valley, Gilgit Agency, northern Pakistan (funding by HEC).

- Mineralogy, geochemistry and genesis of the manganese deposits of Hazara, Pakistan (funded by Commonwealth Fellowship, UK).
- Litho and stream sediments geochemical investigations in regard to base and precious metals in Timargara and Samarbagh, Kohistan terrane, northern Pakistan (funded by NCEG).
- Evaluation and assessment of Shekhai limestone and argillaceous rocks of Haripur district for use as raw material for cement and aggregates in construction (funding by NCEG). Evaluation and assessment of various types of marbles from Malakand agency, Swat, Charsada and Nowshera, N.W.F.P, Pakistan for their use as dimension stones (funding by NCEG).
- Evaluation and assessment of limestone deposits from Nowshera, Haripur and Kohat districts of N.W.F.P. for their industrial applications (funding by NCEG).
- Alkali-aggregates reactivity of selected sites for coarse aggregates, Peahawar, N.W.F.P (funding by NCEG).
- Mineralogy, chemistry, genesis and economic evaluation of the Manganese deposits of Waziristan (funding by NCEG).
- Litho and stream sediments geochemical investigations in regard to base and precious metals in Dir and Swat Kohistan, northern Pakistan (funded by Fulbright Fellowship, USA).
- Involved in a project on Mineral Sector Development Study North West Frontier Province Pakistan (funded by World Bank).
- Evaluation of granites of Swat and Dir for their uses as dimension stones (Private funding).
- Involved in various projects with Chemistry Department, Universities of Peshawar, Agriculture University, Sarhad Development Authority, Pakistan Mineral Development Corporation, Geological Survey of Pakistan and various other private sectors (locally funded).
- Worked as Co-principal Investigator in a project on the review of analytical processes at Khawaja Glass Industries under the Institutional Excellence Project, industry/ University cooperation, sponsored by USAID.
- Mineralogy, geochemistry, genesis and economic evaluation of sediment-hosted base metal mineralization in Besham area and the volcanic-hosted hydrothermal copper mineralization in Dir area (funded partly by NSF, USA and partly by USAID).

## **CURRENT RESEARCH PROJECTS AS PI**

- Regional Geo-chemical Exploration for Precious Metals in Southern Parts of Khyber Pakhtunkhwa. (Funding by Directorate General Mine and Minerals, Mineral Department, Khyber Pakhtunkhwa)
- Mineralogy, geochemistry, genesis and economic evaluation of the barite deposits of Haripur, Paksitan (funding by NCEG).
- Mineralogy, geochemistry, genesis and economic evaluation of manganese deposits of Khuzdar, Baluchistan, Pakistan (funding by HEC).
- Mineralogy, chemistry, genesis and economic evaluation of the Manganese deposits of Prang Ghar area, Mohmand Agency (funding by NCEG).
- Evaluation of the concrete aggregates for construction of bridges, buildings and roads.
- Geochemical investigations of water, soil and plants associated with mafic and ultramafic rocks and mineral deposits: perspective environmental hazards and their remedies (funding by NCEG).

## **FUTURE RESEARCH PROJECTS PLAND**

- Geochemical studies of the various economic mineral deposits of Pakistan.

- Geochemical survey for base metals, gold, silver and other precious metals and gemstones in Kohistan, Karakoram and Hindukush regions of Pakistan.
- Evaluation of plutonic and volcanic rocks of the Kohistan arc in regards to their economic potential on the basis of mineralogy and geochemistry.
- Evaluation of various types of marbles and granites of Pakistan for their use as dimension stones.
- Geochemical investigation of water and soil polluted through natural and industrial processes in N.W.F.P. Pakistan. The identification of their causes and remedies.
- Assessment and evaluation of industrial minerals and rocks and gemstones of the N.W.F.P. for their use in various types of industries of Pakistan

## CURRENT STUDENTS UNDER SUPERVISION

### M.S. / M.Phil. Scholars

1. **Jahangir Khan** (M.Phil. Research student) is working on *“Economic evaluation and provenance studies of placer gold and heavy metals along Kabul River and its tributaries in the western part of Peshawar basin: using GIS multiple techniques and self-designed tri-slucice”*.
2. **Sajad Ahmad** (M.Phil. Research student) is working on *“Economic evaluation and provenance studies of placer gold and heavy metals along Indus River and its tributaries in the District Swabi: using GIS multiple and sluicing techniques”*.
1. **Ijaz Ali Khan** (M.S. Research student) is working on “Geochemical Exploration and Heavy Mineral study of Gold and base metals in the stream sediments of District Dera Ismail Khan, Pakistan”.
2. **Shakir Ullah** (M. Phil. Research student) is working on “Occurrences, Chemistry and Gemological Characteristics of Gemstones from the Alkaline Igneous Rocks of Warsak Area, NW Pakistan”.
3. **Abubakar** (M.Phil. Research student) is working on “Depositional Environment and Economic Geology of the Phosphate Deposits of Soban Gali and Surrounding area District Abbottabad, Khyber Pakhtunkhwa, Pakistan”.
4. **Muhammad Awais Khan** (M.Phil. Research student) is working “Geological mapping and Petrochemical studies of copper mineralization Kurshung area, District Dir, Khyber Pakhtunkhwa, Pakistan”.
5. **Yasir Shaheen** (M.S. Research student) is working “Exploratory studies of Precious Metals and Heavy minerals in the Stream-sediment and Pan-Concentrate samples from Bannu Basin, Khyber Pakhtunkhwa, Pakistan”.
6. **Asad Khan** (M.S. Research student) is working on “Geochemical Evaluation of stream sediments in the perspective of Gold and base metals exploration in district Kohat and part of district Karak, Pakistan”.
7. **Raham Jalil** (M.S. Research student) is working “Geochemical Assessment and Heavy mineral study of stream sediments and pan concentrates for Gold, Silver and base metals in District Tank, Pakistan”.
8. **Shafi ullah** (M.S. Research student) is working on “Geochemical Investigation of River Punjkora and Adjoining Areas of Lower Dir and its health Hazard Assessment”.

### Ph.D. Scholars

1. **Arjamand Riaz** (Ph.D. research student of Environmental Sciences Department, UoP) is working on “Environmental impacts of mercury discharge from gold extraction along Indus, Hunza and Gilgit rivers in northern Pakistan” under my co-supervision and submitted thesis for evaluation.

2. **Laeiq Ahmad** (Ph.D. research student) is working "*Petro-Chemical and GIS/RS investigations of the Rocks of Ranthak and Machulu and their surrounding areas Gilgit-Baltistan, Pakistan in the Perspective of Gold and Base Metals Mineralization*".
3. **Zahir Rehman** (Ph.D. research student of Environmental Sciences Department, UoP) is working on "*Soil and vegetable contamination with heavy metals and health risk, Southern KPK*" under my co-supervision. **Amjad Hussain** (M.S. Research student) is working on "*Mineralogy and Geochemistry of Pegmatites and Associated Gemstones Hosted by sumayar leucagranite, chumar Bakhoor, Gilgit-Baltistan, Pakistan*".

## DEGREES EARNED BY STUDENTS UNDER SUPERVISION

### Ph.D. Research Scholars

1. **Javed Nawab** (Ph.D. research student of Environmental Sciences Department, UoP) worked on "Phytoremediation of chromite mining contaminated soil" under my co-supervision (October, 2014).
2. **Shazia Jabeen** (Ph.D. research student) worked on "*Environmental geochemistry of Attock and Haripur basin, Pakistan*" (January 2013). **Supported by HEC ingenious Fellowship**
3. **Said Mohammad** worked on the "*Environmental geochemical studies of the rocks of the Indus suture zone and its vicinity in Jijal, Besham and Alpuri area, northern Pakistan*" (December, 2011). **Supported by HEC ingenious Fellowship**
4. **Kafayatullah** worked on the "*Lithofacies, petrography and geochemistry of the Neogene Molasse sequence of Himalayan Foreland Basin, Sothern Kohat, Pakistan*" (May, 2009). **Supported by HEC ingenious Fellowship**
5. **M. Hassan Agehem** worked on the "*Mineralogy and geochemistry of the gemstones and the gemstone-bearing pegmatites in Shigar valley of Skardu Northern areas of Pakistan*" (May, 2008).
6. **Imdadullah Siddiqui** worked on "*Environmental Study of Coal deposits of Sindh, with special reference to heavy and trace metal study in Thar, Sonda and Meting- Jhimpir Coal*" (November, 2007).
7. **Shahida Nasreen** worked on "*Monitoring of surface water, groundwater, air and soil of Peshawar basin against time, the 3<sup>rd</sup> dimension*" (August, 2007).
8. **Noor-ul- Amin** worked on the "*Physiochemical studies of the raw material for cement manufacturing in Nizam Pur area, NWFP, Pakistan*" (October, 2006).
9. **Mrs. Shahina Tariq** worked on "*Environmental Geochemistry of surface and subsurface water and soil in Peshawar basin, N.W.F.P., Pakistan*" (July, 2001).
10. **Qazi Kifayatullah** worked on "*Biogeochemical study of soil and plant samples collected from different ore-sites exposures situated at northern parts of Pakistan*" (April, 1998).
11. **Mrs. Tazeem Khan** worked on the "*Geochemistry, mineralogy and petrology of the sulfide mineralization and associated rocks in the area around Drosh, Chitral (Northern Pakistan)*" (February, 1998).

### MS/M.Phil Research Scholars

1. **Asad-ur-Rehman** worked on "*Petro-Chemical Investigations of the Rocks of Shagari Bala Area Skardu District, Gilgit Baltistan Pakistan in the Perspective of Gold and Base Metal Mineralization*" (June 2014).
2. **Sadaf Munir** (MPhil, Environmental Sciences Deptt, UoP) worked on "*Spatial Distribution and Pollution Assessment of Heavy Metals in Urban Park's Soil, Peshawar, Khyber Pakhtunkhwa*" (March 14, 2014).

3. Asad Hayat (MS, Environmental Sciences Deptt, UoP) research conducted on “Assessment of drinking water quality and its related health risk in the population of Mohmand Agency” (2014).
4. **Mohsin Ali** worked on “Feasibility study of the calcareous rocks of the Nowshehra Formation as construction material (for concrete and asphalt) exposed at Maneri, District Swabi, Khyber Pakhtunkhwa” (May, 2014).
5. **Sadaf Miandad** worked on “Petro-Chemical Investigations of the Rocks of Bagrot Valley, Gilgit-Baltistan, Pakistan with Emphasis on Gold and Base Metals Mineralization”. January, 2014..
6. **Juma Muhammad** (M.Phil. research student of Environmental Sciences Department, UoP) worked on “*Environmental geochemistry and socio-economic significance of Morchella esculenta in Dir-Kohistan, Khyber Pukhtunkhwa, Pakistan*” under my co-supervision. September, 2013.
7. **Lawangeen Sheikh** worked on “*Petro-Chemical investigations of the Rocks of Golo Das and Surrounding areas Gilgit-Baltistan, Pakistan in the Perspective of Gold and Base Metals Mineralization*”. September 2013.
8. **Shahid Ali** (MPhil/MS, Environmental Sciences Deptt, UoP) completed research work on “Bacteriological analysis of drinking water of urban areas of district Peshawar (A comparative study at the sources and user points of tube wells)” (November, 2013).
9. **Zaheenuallah** worked on “Study of Heavy Minerals and Exploration of Placer Gold, Silver and Base Metals in the Siwaliks Sandstone of Karak Anticline and its Adjoining Areas in District Karak, Khyber Pakhtunkhwa, Pakistan”. August, 2013.
10. **Naveed Anjum** worked on the “ *Mineralogy, geochemistry and genesis of manganese deposits of Pranghar area, Mohmand Agency, FATA, Pakistan*”. April 2013.
11. **Mumtaz Khan** worked on “*Radon based Geo-Environmental Investigation of Karak Trough and its Adjoining Areas, District Karak, Khyber Pakhtunkhwa, Pakistan*” (April, 2013)
12. **Muhamamd Sajid** worked on the “*Petrography, Geochemistry and Mechanical properties of igneous rocks from the Utla area, Gadoon, north-west Pakistan*” (January, 2012).
13. **Islam-ud-Din** worked on the “*Hydro-geochemistry of the high altitude alpine lakes in Gilgit, northern areas of Pakistan*” (March, 2011).
14. **Nida Gul** worked on the “*Pedo and hydro-geochemistry of the Mardan District, NWFP, Pakistan*” (December, 2011).
15. **Shafiq Ahmad Junejo** worked on the “*Environmental impact of left bank out fall drain (LBOD) on soil and water in Badin District of lower Sindh, Pakistan*” (August, 2008).
16. **Miss. Jamila Ara** worked on the “Pedo, hydro and bio-chemical study of mafic and ultramafic rocks of Bucha and surrounding areas, Mohmand Agency, in the perspective of environmental degradation and geochemical exploration” (July, 2008).
17. **Miss. Shaheen Begum** worked on the “*Environmental studies of soils, waters and plants associated with the mafic and ultramafic rocks in Kabbal-Mingora area, Swat, northern Pakistan*” (December 2007).
18. **Mr. Muhammad Shahid** worked on “*Mineralogical and Geochemical studies of Reshian Lamnian base metals sulfide mineralization and Associated rocks, District Muzaffarabad, Azad Jammu and Kashmir*” (September, 2006).
19. **Mr. Hawas khan** worked on the “*Exploration and Extraction of Placer Gold and Silver in the Terraces of Bagrot Valley, Gilgit Agency, Northern Pakistan*” (June, 2005).
20. **Mr. Anwar Hussain** has worked on the “*Geochemistry of water and soil fom Dera Ismail Khan area, N.W.F.P, Pakistan*” (December, 2000).
21. **Mr. Asad Fayz** worked on the “*Feasibility study of limestone of Gandghar range and associated deposits for cement manufacturing*” (July, 2000).

22. **Mr. Rashid Jamil** completed his research on the “*Development of an integrated environmental control system for identification and evaluation of surface and ground water contamination*” (June 1999)
23. **Mr. Aqeel Gohar** completed his work on the “*Concrete feasibility for the limestone of the Kohat Formation, district Kohat*” (June, 1999).
24. **Mr. Imdadullah Siddiqui** worked on “Heavy metal studies in Lakhra coal” (May, 1999).
25. **Mr. Ihtisham-ul-Haq** worked on the “*Geology and Geochemical investigations of part of Ushiri valley, District Dir, northern Pakistan*” (May, 1999).
26. **Mr. Mohammad Asim** completed his research on the “*Petrology and geochemistry of the ophiolitic rocks and associated copper mineralization from Boya area (Shinkai), north Waziristan, Pakistan*” (March, 1999).
27. **Mr. Azher Khan** completed his research on “*Mineralogy, petrology and geochemistry of manganese mineralization and associated rocks in Saidgi and Shuidar areas, northern Pakistan*” (February, 1998).
28. **Mr. Zaffer Mehmood Baig** completed his research on “*Environmental geochemistry of water, rocks and soil from Gadoon and surrounding areas District Swabi N.W.F.P. Pakistan*” (August, 1997).
29. **Mr. Saifullah** worked on the “*Heavy and trace metal abundance related to pollution in Peshawar city, N.W.F.P. Pakistan*” (March, 1997).
30. **Mr. Ali Sarwar** completed his research on the “*Litho and streamsediments geochemical investigation for base and precious metal in Timargara, Maidan and Jandul area, District Di, northern Pakistan*” (December, 1996).
31. **Mr. M. Sultan** completed his research on the “*Heavy and trace metal related pollution in the western part of Peshawar metropolis, N.W.F.P. Pakistan*” (July, 1996).
32. **Mr. Shahab Danishwar** completed his research on the “*Geochemistry of water and soil samples from the Khashki and surrounding areas, Nowshera and Charsadda Districts, N.W.F.P, Pakistan*” (March, 1995).
33. **Mr. Imtiaz Ali** completed his research on the “*Geochemical investigations of the rocks of Kala Dhaka area and its applicability to mineral exploration*” (March, 1995).
34. **Latifur-Rehman** (M.Sc. structure, Civil Engineering, UET, Peshawar) has worked on the “*The study of various site aggregates for Alkali-aggregates reactivity in Peshawar ( N.W.F.P)*” (December, 1999).

## MEMBERSHIP OF PROFESSIONAL SOCIETIES

- Society of Economic Geologists America
- Society of Economic Geologists and Mineral Technologist (SEGMITE), Pakistan
- National Geological Society of Pakistan
- Remained member of the Geological Society of America
- Remained member of the Mineralogical Society of America

## ORGANIZATION OF CONFERENCES / SYMPOSIA / SEMINARS / SHORT COURSES / WORKSHOPS

Have organized or remained as member of the organizing committee of several conferences, Symposia, Seminars and short courses under the auspices of the NCE in Geology, University of Peshawar and other donor agencies. The important among these are:

### Training/Short course

1. Organized and acted as Resource person in the short course on **Geochemistry** at the Geoscience Advance Research laboratory, Geological survey of Pakistan, Islamabad (June 2-7, 2008).
2. Organized and acted as Resource person in the short course on **Petrology** at the Geoscience Advance Research laboratory, Geological survey of Pakistan, Islamabad (June 16-21, 2008).
3. Organized two weeks short course on **Gemology** under the auspices of Pakistan Gems and Jewellery Development Company and NCE in Geology, University of Peshawar from October 22- November 10, 2008.
4. **Convened** a short course on "**Gems and Gemology**" held at the NCE in Geology, University of Peshawar in collaboration with Gemming International Company, Peshawar (October 12-22, 1998).
5. **Convened** a short course on "**Geological problems solving with Quattro/Lotus 123 and Grapher**" held at the National Centre of Excellence in Geology, University of Peshawar (July 18-24 July, 1993).

### **Conferences/Workshops/Seminars**

6. Convened international Conference on "**Earth Sciences Pakistan: New Developments**" in the Baragali Summer Campus, University of Peshawar from August 29-31, 2014.
7. Organized a one day workshop on "**Towards better understanding of gold mineralization in the northern areas of Pakistan**" as a Chief Organizer at the Auditorium of Pakistan Academy of Sciences, Islamabad on December 18, 2013.
8. Organized a one day workshop on "**Tectonomagmatic Controls on Porphyry and Epithermal Mineralization**" as a Chief Organizer at the National Centre of Excellence in Geology, University of Peshawar, Peshawar, on June 26, 2013.
9. Organized one day workshop on "**GIS/RS and Geochemical techniques in mineral exploration and placer gold extraction related health hazards in northern areas of Pakistan**" as a chief- organizer in the Department of Earth Sciences, Karakorum International University, Gilgit-Baltistan on June 19, 2012.
10. One of the convener of the international conference on "**Earth Sciences Pakistan: New Development 2012**" held in Baragali Sumer campus of the University of Peshawar from June 23-24, 2012.
11. Organized a two days workshop on "**Geochemical and geo-informatic tools for use in Mineral Exploration and Environmental Degradation**" as a chief-organizer in the NCE in Geology, University of Peshawar from June 2-3, 2011.
12. Organized a three days conference on "**Earth Sciences Pakistan: New Developments**" as a chief organizer in the Baragali Summer Campus, University of Peshawar from September 20-22, 2010.
13. One of the organizers of an international workshop on "**Indo-Asia Continental collision**" held at Margala Hotel, Islamabad from May 11-12, 2010 under the auspices of National Science Foundation, USA.
14. One of the organizer of the two-week Regional Workshop on "**Recent Development in the Geo-Hazard Disaster Management Focusing on Earthquake Vulnerability Reduction in Mountainous regions**" held at Baragali summer Campus on August 11-23, 2008.

15. Organized a one day symposium along with Dr. Syayb in the honor of late Prof. Dr. S. Hamidulah under the title "**Kashmir earthquake 2005: Physiographic and social impact**" on October 18 2006 under the auspices of NCE in Geology, University of Peshawar.
16. **Convened** a National Conference on the "**Economic and Environmental Sustainability of the Natural Recourses of Pakistan**" held at the Baragali Summer Campus, University of Peshawar (July 20-22, 2004).

## **PARTICIPATION IN PROFESSIONAL MEETINGS, CONFERENCES, SEMINARS, LECTURES and TRAININGS**

Delivered lectures in various Universities in USA, UK and in Pakistan. Delivered talks and chaired technical sessions in many international conferences held at USA, UK, Austria, China, Italy, Bangladesh, and Sri Lanka and also attended training programs. Most important are as follows:

### **Trainings**

1. Course completion certificate on attending a workshop on "**Regional training on Geo-Information for Resource Management by using ArcGIS**" held in Rock city Resort, Swat under the auspices of National centre of Excellence in Geology, University of Peshawar and ICIMOD from September 1-13, 2003.
2. Course completion certificate of training on **Geological control on natural hazards: Earthquakes and mass-movement** held at Baragali summer campus. Jointly organized by University of Peshawar and the Pakistan atomic Energy Commission August 19-22-2002.
3. Course completion certificate on training on "**Web Authoring**" jointly organized by UNDP, IUCN-The World Conservation Union and SDNP at Centre of Applied Epistemics, Peshawar from October 11-12-2000.
4. Course completion certificate on attending training on "**Exploration Geochemistry and Sampling**" held under the auspices of Australian Mineral Foundation at Peshawar from 7 - 16th June, 1994.
5. Course completion certificate on attending a training on "**Exploration Methods**" held under the auspices of Australian Mineral Foundation at Peshawar from 23rd June - 5th July 1994.
6. Course completion certificate on attending a short course on "**Flame/Graphite furnace Atomic Absorption, Perkin Elmer model 3100/3300/4100/5100**" held at Norwalk, Connecticut, USA from 11-17 July 1993.
7. Course completion certificate on attending a training on "**Geological Environment of ore deposition**" held under the auspices of Australian Mineral Foundation at Peshawar from 31st May - 16th June 1994.
8. Course completion certificate of training on **Thrust tectonics and balanced cross sections: concepts and techniques** held at Baragali summer campus, University of Peshawar from July 12-14-1992.
9. Course completion certificate on attending a training on "**Ore Reserve Calculation**" held under the auspices of Australian Mineral Foundation at Peshawar from 21-28 February 1992.

## Workshops

### International

1. Participated and actively involved in the arrangement of three day **International workshop on watershed management and rehabilitation in the northwest frontiers of Pakistan** held in the auditorium of Pakistan Academy of Sciences, Islamabad from December 6-8, 2010.
2. Participated as Moderator of one technical session and delivered a talk in two days workshop on **Indo-Asia Continental collision** held at Margala Hotel, Islamabad from May 11-12, 2010.
3. Resource person in an **international workshop on Geoinformatics**, held in Islamabad, January 7-8, 2004.
4. Member of the organizing committee for the workshop on **Geological Controls on Natural Hazards; Earthquakes and Mass movement** held in Baragali Summer Campus University of Peshawar under the aegis of National Centre of Excellence in Geology, University of Peshawar and Pakistan Atomic Energy Commission, August 19-22, 2002.
5. Participated and delivered talk in **16th Himalaya-Karakoram-Tibet international workshop**, held at Leibnitz, Austria in April, 2001.
6. Member of the organizing committee for **13th Himalaya-Karakoram-Tibet international workshop**, Peshawar in April, 1998.

### National

1. Participated in the ACSE Workshop for Journal Editors organized by Asian Council of Science Editors on the **Journal Policies and Publication Ethics** held in Marriat Hotel, Islamabad on February, 4, 2015.
2. Participated and delivered a talk in workshop on **“KP Mines and Minerals (Development and Regulation) Act-2014”** held at the Peshawar Club, Peshawar on November 20, 2014.
3. Participated in a one day workshop on **Education Sector Reforms** held in the Governor's House, Peshawar, NWFP on December 31, 2008.
4. Participated as Resource Person in a **Research Training workshop** organized by Khyber Medical University, Directorate of Research and Development, Peshawar on May 12-14, 2008.
5. Participated as technical expert in one day workshop on **Development of mineral sector in FATA** arranged by FATA DA in Peshawar on September 27, 2007.
6. Participated and co-chair the workshop on **Status of Gemstones in Pakistan and problems in identification and evaluation of Gemstones in Pakistan** arranged by the Directorate of Mines and Minerals, N.W.F.P., Pakistan on 30-08-07 in Peshawar.
7. Participated in the one day workshop on **Promoting Industry Academia Linkage for developing knowledge-based Enterprise Sector in Pakistan** held in Pearl Continental hotel, Peshawar, February 12, 2007.

8. Delivered an invited lecture on the ***Geological resources: their exploitation and environmental degradation*** in the Workshop arranged by the Pakistan Forest Institute, Peshawar on March 22, 2006.
9. Participated in a one day workshop on ***Stratigraphy and Paleontology of Pakistan*** organized by Geological Survey of Pakistan at Islamabad on February 8, 2005.
10. Participated as panelist in a one day workshop on ***Development of Minerals and Mineral based Industries*** jointly organized by Directorate General Mines and Minerals, Government of Pakistan and Expert Advisory Cell, Ministry of Industries and Production and Special Initiatives, held at PC, Peshawar on September 15, 2004.

## Professional meetings, conferences, seminars and lectures

### International

1. Participated in the ***Annual Meeting of the Geological Society of America*** held in Denver, Colorado (October 27-30, 2013).
2. Participated and delivered an invited talk in the international conference on ***"The sustainable management of mineral resources; A geopolitical issue and a governance and development challenge"*** arranged by French Embassy in Kabul, Afghanistan from November 19-23, 2012.
3. Participated and delivered a talk in the ***4<sup>th</sup> International Conference on Medical Geology-GEOMED-2011*** held in the Sheraton Hotel, Bari, Italy from September 20-25, 2011.
4. Participated and co-chair the two day international seminar on ***Earthquake Hazards Pakistan: Post-October 08, 2005 Muzaffarabad Earthquake Scenario*** arranged by the Quaid-i-Azam University, Islamabad and National Centre of Excellence in Geology, University of Peshawar from 22-23 August 2008 in the Baragali Summer Campus, University of Peshawar.
5. Participated and delivered a talk in the international Conference on ***Biogeochemistry of trace elements*** arranged by the Chinese Academy of Sciences, Beijing, China from July 15 –19, 2007.
6. Participated in the ***international conference on Earthquake in Pakistan*** arranged by Geological survey of Pakistan in Islamabad from January 18-19, 2006.
7. Participated in the ***workshop on Regional training on Geo-Information for Resource Management*** by using ArcGIS held in Rockcity Resort, Swat under the auspices of National Centre of Excellence in Geology, University of Peshawar and ICIMOD from September 1-13, 2003.
8. Participated International conference on ***Strategizing Higher Education Reforms*** held in the Baragali summer campus of University of Peshawar, Pakistan, July 24-26, 2003.
9. Guest speaker for a ***Seminar Lecture Series*** at the University of Leicester, UK 2001.
10. Participated and delivered talk in 3<sup>rd</sup> South Asia Geological Congress held at Lahore, Pakistan in September, 2000.
11. Guest speaker for a ***Seminar Lecture Series*** at the University of Nevada, Reno, USA, February, 2000.  
Participated and delivered a talk in the ***Geological Society of America annual meeting/conference*** held at Denver, Colorado (USA) in October, 1999.
12. Participated and delivered a talk in the 2<sup>nd</sup> South Asia Geological Congress held at Colombo (Sri Lanka) in January, 1995.

13. Attended the **International Round Table Conference on Foreign Investment in Exploration and Mining in Pakistan** held at Islamabad (Pakistan) from October 16-18, 1994.
14. Participated and delivered a talk in **1st South Asia Geological Congress** held at Islamabad (Pakistan) in February, 1992.
15. Participated and delivered a talk in the **Geological Society of America annual meeting** held at San Diego (USA) in October, 1991.
16. Participated and delivered a talk in the **Geological Society of America annual meeting** held at Dallas (USA) in October, 1990.
17. Participated and delivered a talk in the **Geological Society of America annual meeting** held at St. Louis, 1989.
18. Attended the **28th International Geological Congress** held at Washington D.C. (USA) in July, 1989.
19. Participated in the **Mid Winter Community Seminar** held at Memphis (USA) in December, 1988.
20. Participated in the **Mid Winter Community Seminar** held at New York (USA) in December, 1987.

## National

1. Participated and delivered a talk in the Swat Trade Exhibition and Symposium held in the Serena Hotel, Mangora Swat (September 9-10, 2014) organized by Malakand Army Division, Mingora, Swat.
2. Participated and delivered a talk in a one day conference on **“sustainable utilization of natural resources (SUN-R) of the Khyber Pakhtunkhwa and FATA”** held at Pearl Continental Hotel, Peshawar, February 11, 2013.
3. Participated in the international conference on **“Earth Sciences Pakistan 2012”** held in Baragali Sumer campus of the University of Peshawar from June 23-24, 2012.
4. Participated in the one day workshop on **“Cryosphere (snow and glacier) dynamic of the Indus Basin”** organized by ICMOD, in Mariette Hotel , Islamabad on March 16, 2012.
5. Participated and delivered a invite talk in the **Seminar on Building effective coordination between RandD and Industry for enhancing innovation competitiveness and productivity of indigenous technologies** held in the Chamber of Commerce and Industries, Peshawar on March 10, 2011.
6. Participated in the two days **Annual Technical Conference** arranged by the PAPG and SPE in the Serena Hotel, Islamabad from November 10-11, 2010.
7. Participated as Resource Person in a **Research Training workshop** organized by Khyber Medical University, Directorate of Research and Development and Peshawar on May 12-14, 2008.
8. Participated as technical expert in one day workshop on **Development of mineral sector in FATA** arranged by FATA DA in Peshawar on September 27, 2007.
9. Participated and co-chair the workshop on **Status of Gemstones in Pakistan and problems in identification and evaluation of Gemstones in Pakistan** arranged by the Directorate of Mines and Minerals, N.W.F.P. and Pakistan on 30-08-07 in Peshawar.
10. Participated in the two days **4<sup>th</sup> Annual Fulbright Alumni Conference** arranged by US Education Foundation 9in the Quaid-I-Azam University, Islamabad from 27-28 April 2007.
11. Participated in the one day Seminar on **Seismotectonics and seismic hazards in Pakistan** arranged by the Geological Survey of Pakistan in Islamabad, March 24, 2007.

12. Participated in the one day seminar on **Post 8<sup>th</sup> October 2005 earthquake scenario: achievements and challenges** arranged by the National Geological Society of Pakistan in Islamabad on November 21, 2006.
13. Participated as invited guest speaker and delivered a talk on the **Promotion of Gems and Jewellery Business in the Developing Countries** in the Seminar of 13<sup>th</sup> Pakistan Gems and Mineral Show held in Pearl Continental Hotel, Peshawar on November 10, 2006.
14. Delivered an invited talk on the **Geology and tectonics of Kashmir region in the perspective of global tectonics in an international Seminar on earthquake resistant material** arranged by Pakistan Material Research Society from September 11-12, 2006 in Islamabad.
16. Participated in the **Fulbright International Conference** held under the auspices of US Educational Foundation, Islamabad from 28-30 April 2006 in Islamabad.
17. Participated in the **conference on earthquake** arranged by the UET, Peshawar and NCE in Geology, University of Peshawar in Islamabad in December, 2005.
18. Participated as Guest speaker and Co-chairman in two different technical sessions in a three days **National Conference on Fossil Fuels and Mineral Resources of Sindh** held at University of Sindh, Jamshoro from February 28 to March 1, 2005.
19. Participated in a one day workshop on **Stratigraphy and Paleontology of Pakistan** organized by Geological Survey of Pakistan at Islamabad on February 8, 2005.
20. Resource person in six day **In-Service Training Course in Environmental Sciences** held at the Department of Environmental Sciences, University of Peshawar from September 20-25, 2004.
21. Participated and convened the **National Conference on Economic and Environmental Sustainability of Mineral Resources of Pakistan** held at Baragali Summer Campus, University of Peshawar, July 20-22, 2004.
22. Participated and co-chaired one of the technical session of the **5<sup>th</sup> Pakistan Geological Congress** held at Islamabad, April 15-17, 2004.
23. Attended the **Petroleum Symposium II** held in Pearl Continental Hotel, Peshawar under the auspices of National Centre of Excellence in Geology, University of Peshawar and Pakistan Association of Petroleum Geologists, May 24-25, 2003.
24. Resource person for "Coloring metals in Gemstones" in a **9<sup>th</sup> Pakistan Gems and Minerals show** held in Peshawar, March 2003.
25. Participated International conference on **the role of natural resources and environment in sustainable development in south and southeast Asia (NESDA)** held at Dhaka, Bangladesh, January 17-21, 2003.
26. Member of the organizing committee and instructor in a **Geological Seminar** held under Academic Assistance Program in Geological Sciences (AAPGS) at Baragali Campus (Pakistan) in August, 1982.

## A. REFEREED PUBLICATIONS

**Total Publications = 149**

**(I) Publications in journals having impact factor** (Total: 59; Total IF = 105.19)

1. Ullah K., Arif M. and **Shah, M.T. (under-review)**. Sedimentology of the Neogene Kamlial and Chinji Formations from Kohat plateau, western Himalayan foreland basin, Pakistan. *Journal of Earth System Science*.
2. Zahir Ur Rehman, Z., Khan, S., **Shah, M.T.**, Brusseau, M.L., Mainhagu, J., 2015 (Accepted). Transfer of heavy metals from soils to vegetables and associated human health risk in selected sites in Pakistan. *Pedosphere*, In press **(IF = 1.50)**
3. Nawab, J., Khan, S., Shah, M.T., Khan, K., Huang, Q. and Ali., R., 2015 (Accepted). Quantification of heavy metals in mining affected soil and their bioaccumulation in native plant species. *Inter. Jour. Phytoremed.* 17, 801-813.**(IF = 1.74)**
4. Nawab, J., Khan, S., **Shah, M.T.**, Gul, N., Ali, A., Khan, K. and Huang Qing., 2015 (Accepted) Heavy metal bioaccumulation in native plants in chromite impacted sites: A search for effective remediating plant species. *CLEAN-Soil, Air and water*. In press **(IF = 1.95)**
5. Gul, N., Shah, M.T., Khan, S., Khattak, N.U., Muhammad, S., 2015 (online). Arsenic and heavy metals contamination, risk assessment and their source in drinking water of the Mardan district, Khyber Pakhtunkhwa, Pakistan. *Jour. Water. Health.* doi:10.2166/wh.2015.011 **(IF= 1.46)**
6. Ageem, M.H., **Shah, M.T.**, Khan, T., Murata, M., Humaira, D and Zafar, M., 2015 (online) Petrogenetic evolution of pegmatites of the Shigar Valley, Skardu, Gilgit-Baltistan, Pakistan. *Arab.Jour. Geoscie.* DOI: 10.1007/s2517-015-1900-x **(IF= 1.22)**
7. Begum, S., Shah, M.T., Muhammad, S. and Khan, S., 2015 (online). Role of mafic and ultramafic rocks in drinking water quality and its potential health risk assessment, Northern Pakistan. *Jour. Water. Health.* Doi:10.2166/wh.2015.066. **(IF= 1.46)**
8. Abir, I. A., Khan, S. D., Ghulam, A., Tariq, S., **Shah, M. T.**, 2015. Active Tectonics of Western Potwar Plateau-Salt Range, Northern Pakistan from InSAR Observations and Seismic Imaging. *Remote Sens. Environ.*, 168, 265-275 **(IF = 6.39)**
9. Ali., L., Moon, C.J., Williamson, B.J., **Shah, M.T.**, Khattak, S.A., 2015. A GIS-based stream sediment geochemical model for gold and base metal exploration in remote areas of northern Pakistan. *Arab. Jour. Geoscie.*, 8(7), 5081-5093. DOI:10.1007/s12517-014-1531-7 **(IF = 1.22)**
10. Ullah, K., Arif, M. and **Shah, M.T.**, 2015. Petrography and geochemistry of the Kamlial Formation, southwestern Kohat plateau, Pakistan: implications for paleoclimate of the Western Himalayas. *Turkish Jour. Earth sci.*, 01/2015; 24:276-288. DOI: 10.3906/yer-1410-21 **(IF= 1.17)**.
11. Hussain, R., Khattak, S.A., **Shah, M.T.** and Ali, L. (2015). Multistatistical approaches for environmental geochemical assessment of pollutants in soils of Gadoon Amazai Industrial Estate, Pakistan. *Jour. Soils. Sediments*, 15, 1119-1129. **(IF= 2.14)**.
12. Ali, L., Williamson, B.J., Moon, C.J., **Shah, M.T.** and Khattak, S.A. (2015). Distribution of gold in different size fractions of stream sediments as a guide to bedrock gold mineralization along the shyok suture Zone and adjacent areas of the Kohistan Islnad Arc, Pakistan. *Arab.Jour. Geosci.* 8, 2227-2235. DOI 10.1007/s12517-014-1306-1. **(IF = 1.22)**
13. Khan, S., Shah, I. A., Muhammad, S., Riffat Naseem Malik, R. N. and **Shah M.T.** 2015. Arsenic and Heavy Metal Concentrations in Drinking Water in Pakistan and Risk Assessment: A Case Study. *Human. Ecol. Risk Assess. Inter. Jour.*, 21, 1010-1031. **(IF = 1.10)**

14. Biber, K., Khan S.D. and **Shah, M.T.**, 2015. The source and fate of sediment and mercury in Hunza River basin, Northern Areas, Pakistan Investigation of the source, fate, and transport of mercury in Hunza River, Northern Areas, Pakistan, Hydrol. Process., 29, 579-587. **(IF = 3.05)**
15. Khan, S., Shah, I. A., Muhammad, S., Malic, R. N. and **Shah M.T.** 2015. Arsenic and Heavy Metal Concentrations in Drinking Water in Pakistan and Risk Assessment: A Case Study. Hum. Ecol. Risk Assess. 21, 1010-1031. **(IF = 1.10)**
16. Ahmed, Z., Subhan, F., Shah, M.T. and Farooq, S., 2014. Effect of fasting on serum lithium levels: An experimental study in animal models. Pak. Jour. Pharmaceu. Scie., 27(1): 33-7. **(IF = 0.68)**
17. Khattak, N.U., Khan, M.A., **Shah, M.T.** and Ali, N. 2014 (available online). Radon concentration in drinking water sources of the region adjacent to tectonically active Karak thrust, southern Kohat plateau, Khyber Pakhtunkhwa, Pakistan. Jour. Radioanal. Nucl. Chem. DOI 10.1007/s10967-014-3257-0. **(IF= 1.03)**
18. Sajid, M., Arif, M., **Shah, M.T.**, 2014. Petrogenesis of Granites from Utlra area of Gadoon, North-West Pakistan: Implications from petrography and geochemistry. Jour. Earth. Sci., 25(3), 445-459. **(IF = 0.76)**
19. Jabeen, S., **Shah, M.T.**, Ahmed, I., Khan, S., Hayat, M.Q. 2014. Physico-chemical parameters of surface and ground water and their environmental impact assessment in the Haripur Basin, Pakistan, Jour. Geochem. Explor., 138, 1-7. **(IF = 2.75)**
20. Agheem, M.H, **Shah, M.T.**, Khan, T., Murata, M., Arif, M., Dars, H., 2014. Shigar valley gemstones, their chemical composition and origin, Skardu, Gilgit-Baltistan, Pakistan. Arabian Jour. Geosci., 7, 3801-3814; DOI 10.1007/s12517-013-1045-8 **(IF = 1.22)**
21. Muhamamd, S., **Shah, M. T.**, Khan, S., Saddique, U., Gul, N., Khan M.U., Malik, R.N., Farooq, M., Naz, A., 2013. Wild plant assessment for heavy metal phytoremediation potential along the mafic and ultramafic terrain, Northern Pakistan. BioMed Research International (formerly: Journal of Biomedicine and Biotechnology). **(IF = 1.58)**
22. Khan, S., Shahnaz, M., Jehan, N., Rehman, S. and **Shah, M. T.**, Din, I., 2013. Drinking water quality and human health risk in Charsada district, Pakistan. Jour. Clean. Product., 60, 93-101. doi:10.1016/j.jclepro.2010.02.016. **(IF = 3.84)**
23. **Shah, M.T.**, Ara, J., Muhammad, S., Asad, S.A. and Ali, L., 2012. Potential Heavy Metal Accumulation of Indigenous Plant Species along the Mafic and Ultramafic Terrain in the Mohmand Agency, Pakistan. CLEAN-Soil, Air and water. 42(3), 339-346. **(IF = 1.95)**
24. Khan, S., **Shah, M.T.**, Din, I., Rehman, S. and Khaliq, A., 2012. Mercury Exposure of Workers and Health Problems Related with Small-scale Gold Panning and Extraction. Jour. Chem. Soc. Pak. 34 (4), 870-876. **(IF = 1.38)**
25. **Shah, M.T.**, Ara, J., Muhammad, S. and Khan, K., Tariq, S., 2012. Health risk assessment via surface water and sub-surface water consumption in the mafic and ultramafic terrain, Mohmand agency, northern Pakistan. Jour. Geochem. Explor. 118, 60-67. **(IF = 2.75)**
26. Amin, N., Ali, K. and **Shah, M. T.**, 2012. Investigation of Raw material for the manufacturing of white cement in Durukhula Nizampur Khyber Pakhtunkhwa Pakistan. Pakistan. Jour. Chem. Soc. Pak. 34 (1), 49-52. **(IF = 1.38)**
27. **Shah, M. T.**, Alizai, A. H. and Khan, S. D., 2012. Environmental Geochemistry of surface and subsurface water from Dera Ismail Khan, Khyber Pakhtunkhwa, Pakistan. Jour. Chem. Soc. Pak. 34 (1), 243-250. **(IF = 1.38)**
28. Khattak, N.U., Khan M.A., **Shah. M.T.** and Javed, M.W., 2011. Radon concentration in drinking water sources of the Main Campus of the University of Peshawar and surrounding

- areas, Khyber Pakhtunkhwa, Pakistan. *Jour. Radioanal. Nuclear Chem.* 290, 493-505. **(IF= 1.03)**.
29. Amin, N., Ali, K., **Shah, M.T.** and Alam, S. 2011. Chemical activation of bagasse ash in cement mortar. *Advances in Cement Res.*, 23 (2), 89-95. **(IF= 0.59)**
  30. Muhammad, S., **Shah, M.T.** and Khan, S. 2011. Heavy metal concentrations in soil and wild plants growing around Pb-Zn sulfide terrain in the Kohistan region northern Pakistan. *Microchem. Jour.* 99, 67-75. **(IF= 2.75)**
  31. Muhammad, S., **Shah, M.T.** and Khan, S. 2011. Health risk assessment of heavy metals and their source apportionment in drinking water of Kohistan region, northern Pakistan. *Microchem. Jour.*, 98, 334-343. **(IF= 2.75)**
  32. Khan, S., Rehman, S., Cao, Q., Jehan, N. and **Shah, M.T.** 2011. Uptake and translocation of Pb and pyrene by rye-grass cultivated in aged spiked soil. *Inter. Jour. Environ. Pollut.*, 45(1/2/3), 110-122 **(IF = 0.63)**
  33. Khan, S., Rehman, S, Khan, A. Z., Khan, A. A. and **Shah, M.T.**, 2010. Soil and vegetables enrichment with heavy metals from geological sources in Gilgit, northern Pakistan. *Ecotoxic. Environ. Safty.* 73: 1820-1827. **(IF= 2.76)**
  34. Muhammad, S., **Shah, M.T.** and Khan, S., 2010. Arsenic health risk assessment in drinking water and source apportionment using multivariate statistical techniques in Kohistan region, northern Pakistan. *Food. Chem. Toxicol.* 48, 2855-2864. **(IF= 2.90)**
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**(II) Publications in other international journals/Proceedings/Books (Total: 14)**

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**(III) Publications in HEC recognized journals of “X” category (Total: 6)**

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1. Tahirkheli, T, **Shah. M.T.**, Khan, M.A. and Bilqees, R., 2012. Mineralogy and geochemistry of diorites and associated hydrothermal sulfide mineralization of Gawuch Formation in Drosh area, Chitral, northern Pakistan. Jour. Himalay. Earth. Sci., 45(1), 31-52.
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4. Kafayat Ullah, Arif.M., **Shah, M. T.** and Abbasi., I.A., 2009. The lower and Middle Siwaliks fluvial deposition system of the western Himalayan foreland basin, Kohat, Pakistan. Jour. Himalay. Earth Sci., 42, 61-85.
5. Kafayat Ullah, Arif.M. and **Shah, M. T.**, 2006. Petrography of Sandstones from the Kamli and Chinji Formations, Southwestern Kohat Plateau, NW Pakistan: Implications for Source Lithology and Paleoclimate. Jour. Himalay. Earth Sci., (Geol. Bull. Univ. Pesh), 39: 2-28.
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13. Asim, M., Majid, M. and **Shah, M.T.**, 2000. Mineral chemistry and origin of ophiolitic rocks from the Waziristan ophiolite complex, NW Paksitan. *Geol. Bull. Univ. Peshawar*, 33, 39-52.
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19. Khattak, M.U.K., Stakes, D.S., Shervais, J.W., Arif, M. and **Shah, M.T.**, 1995. Stable isotope thermometry of the Nanga Parbat-Haramosh Massif and the Kohistan-Ladakh arc, northern Pakistan. *Geol. Bull. Univ. Peshawar*, 28, 109-126.
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**(IV) Publications in HEC recognized journals of “Z” category (Total: 11)**

1. Begum, J., Kaka Khail, and **Shah, M. T.**, 2005. Co-Deposition of Cu-Zn thin film alloys from non-cyanide bath. *Jour. Sci. Tech., Univ. Peshawar*, 29, (2), 23-26.
2. Begum, J., Kakakhel, L. and **Shah, M.T.**, 2004. Co-deposition of Ni-Fe alloys on mild steel. *J. Sci. Tech. Univ. Peshawar, Pakistan*, 26: 51-53.
3. Shakirullah, M., Ahmad, I, **Shah, M.T.**, Ishaq, M., Habib-ur-rehman, Sanaullah, and Bahader, A., 2002. Ash depletion study of Pakistani low rank pulverized coal. *J. Sci. Tech. Univ. Peshawar, Pakistan*, 26: 23-27.
4. **Shah, M.T.** and Lechler, P.J., 2002. Gold anomalies in the Dir and Swat Kohistan, northern Pakistan. *J. Sci. Tech. Univ. Peshawar, Pakistan*, 26: 1-6.
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**(V) Publications in other journals / Books of international repute (Total: 22)**

1. Shakirullah, M., Ahmad, I., Wazir, S. and **Shah, M. T.**, Habib-ur-Rehman., Ishaq, M. and Bahader, A., 2003. Characterization and mineral matter extraction of South Waziristan coal. *Pesh. Univ. Teach. Assoc. Jour.* 10, 115-121.
2. Shakirullah, Habib-ur-Rehman, **Shah, M.T.**, Subhanullah, Khan, M.A. and Khan, S.A., 2002. Level of lead and cadmium in different brands of cigarette tobacco smoked in Pakistan. *Scientific Khyber*, 15 (1), 29-35.
3. Siddiqui, I., **Shah, M.T.** and Khan, M., 2000. Environmental geochemistry of acid mine drainage water at Indus coal mine at Lakhra, Sindh-Pakistan. *J. Eng. and Appl. Sci.* 19, No. 2, 100-106.
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4. Review of analytical processes of Khawaja glass industries, Hasanabdal. Unpublished report of NCE in Geology 6, University of Peshawar and Khawaja Glass Industries, Hassanabdal, a joint venture.
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## **EDITORSHIP OF JOURNALS**

1. Editor of the Abstract volume of the National Conference on Economic and Environmental Sustainability of Mineral Resources of Pakistan
2. Editor of the Geological Bulletin volume 36, 2003, University of Peshawar
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2. Sub-Editor of the Journal of Science and Technology, University of Peshawar, vol. 24, NO. 1and2 (2000) to vol. No. 1 and 2 (2007)

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2. Prof. Dr. M. Asif Khan, Vice Chancellor, Karakoram International University, Gilgit, Pakistan (Email: masifk9@gmail.com).
3. Prof. Dr. Shuhab Khan Danishwar, Department of Earth and Atmospheric Sciences, University of Houston, Houston, Texas, USA. Email: sdkhan@central.uh.edu)