

Mohsin Tariq

Nationality: Pakistani **Gender:** Male

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ABOUT MYSELF

As a hydro-climate scientist, I specialize in advanced hydrological modeling and validating meteorological reanalysis data. My research focuses on understanding hydroclimatic trends, evaluating extreme weather patterns, and providing data-driven insights into water resource dynamics and climate change impacts.

WORK EXPERIENCE

Research Institute for Geo-Hydrological Protection (IRPI)-CNR – Perugia, Italy

City: Perugia | Country: Italy

Assegno di Ricerca

[15/05/2025 – Current]

Institute of Atmospheric Sciences and Climate (ISAC)-CNR – Bologna, Italy

City: Bologna | Country: Italy

Assegno Professionalizzante (Young Researcher)

[15/04/2024 – 14/05/2025]

- Analysis and validation of high-resolution meteorological dataset
- Data application in climate and hydrological studies
- Drought risk mitigation in Italy

COMSATS University Islamabad, Abbottabad Campus – Abbottabad, Pakistan

City: Abbottabad | Country: Pakistan

Lecturer at Department of the Earth Sciences

[02/2016 – 16/03/2025]

- Instructing undergraduate students
- Organizing field trips, seminars, workshops, and training sessions
- Supervising and guiding undergraduate students in their thesis
- Developing curriculum content for undergraduate courses
- Coordinating research activities, including field trips, seminars, workshops, and training sessions.

COMSATS University Islamabad, Abbottabad Campus – Abbottabad, Pakistan

City: Abbottabad | Country: Pakistan

Visiting Lecturer at the Department of Earth Sciences

[30/08/2013 – 12/02/2016]

- Instructing undergraduate students
- Organizing field trips, seminars, workshops, and training sessions

EDUCATION AND TRAINING

Doctor of Philosophy

University of G. D. Annunzio Chieti-Pescara [06/2020 – 12/2023]

Address: Department of Psychological Health and Territory Sciences, Chieti (Italy) | Website: <https://www.unich.it/>
| Thesis: Impact of climate change on water resources in Abruzzo-central Italy (A case study of the Aterno-Pescara River watershed)

Visiting Graduate Student

The Pennsylvania State University [12/2022 – 02/2023]

Address: Department of Agricultural and Biological Engineering, State College-Pennsylvania (United States) |
Website: <https://www.psu.edu/>

Visiting Graduate Student

University of Calgary [09/2022 – 11/2022]

Address: Department of Civil Engineering, Calgary (Canada) | Website: <https://www.ucalgary.ca/>

Masters in Geophysics

University of Peshawar [10/2012 – 12/2015]

Address: National Centre of Excellence in Geology, Peshawar (Pakistan) | Website: <http://nceg.uop.edu.pk/>

Bachelor of Science

COMSATS University Islamabad, Abbottabad Campus [09/2008 – 08/2012]

Address: Department of Earth Sciences, Abbottabad (Pakistan) | Website: <https://www.cuiatd.edu.pk/>

PUBLICATIONS

[2024]

Hydro-climatic trends in Central Italy: A case study from the Aterno - Pescara River watershed

Tariq, M., E. Aruffo, P. Chiacchiarretta and P. Di Carlo (2024). Hydro-climatic trends in Central Italy: A case study from the Aterno - Pescara River watershed". **(Accepted-Sustainability)**

[2024]

Understanding future hydrologic challenges: Modelling the impact of climate change on river runoff in central Italy

Tariq, M., A. N. Rohith, R. Cibir, E. Aruffo., G. A. A. Abouzied and P. Di Carlo (2024). "Understanding future hydrologic challenges: Modelling the impact of climate change on river runoff in central Italy". <https://doi.org/10.1016/j.envc.2024.100899>

[2023]

Homogenization of the Central Italy Monthly Precipitation Instrumental Data Series from 1930 to 2017

Abouzied G. A. A., E. Arruffo., **M. Tariq**, and P. Di Carlo (2023). "Homogenization of the Central Italy Monthly Precipitation Instrumental Data Series from 1930 to 2017". **(Under Review-International Journal of Climatology)**

[2020]

The Use of PALSAR (D.E.M.) for Mega Fracture Analysis of Dabbar Anticline, Sulaiman Fold Belt, Pakistan

Tariq, M., M. Zaib, O., P. Di Carlo, Shah, S. T. H., Adnan., M. Kashif and A. Rehman (2020). "The Use of PALSAR (D.E.M.) for Mega Fracture Analysis of Dabbar Anticline, Sulaiman Fold Belt, Pakistan". 2nd Conference on Sustainability in Civil Engineering (CSCE'20) Islamabad Pakistan, Department of Civil Engineering, Capital University of Science and Technology, Islamabad Pakistan.

[2020]

Gold deposits of Pakistan: a short review

Shah, S., T. H., **M. Tariq**, N. Khan, G., Z. Khan, A. Rahman, K. Wahab, G. Bacha, A. and Ibad-ullah (2020). "Gold deposits of Pakistan: a short review". Bulletin of Nepal Geological Society. 37: 177-181.

[2019]

Chromite Deposits of Pakistan: A Short Review

Shah, S. T. H., **M. Tariq**, N. G. Khan, F. U. Rehman, A. Iftikhar, A. Farid and S. Naseer (2019). "Chromite Deposits of Pakistan: A Short Review". International Journal of Research - GRANTHAALAYAH. <https://doi.org/10.5281/zenodo.3354292>

[2018]

Potentially toxic elements in soil of the Khyber Pakhtunkhwa province and Tribal areas, Pakistan: evaluation for human and ecological risk assessment

Saddique, U., S. Muhammad, **M. Tariq**, H. Zhang, M. Arif, I. A. K. Jadoon and N. U. Khattak (2018). "Potentially toxic elements in soil of the Khyber Pakhtunkhwa province and Tribal areas, Pakistan: evaluation for human and ecological risk assessment". Environmental Geochemistry and Health. <https://doi.org/10.1007/s10653-018-0091-2>

[2017]

Mercury contamination in selected foodstuffs and potential health risk assessment along the artisanal gold mining, Gilgit-Baltistan, Pakistan

Riaz, A., S. Khan, S. Muhammad, C. Liu, M. T. Shah and **M. Tariq** (2017). "Mercury contamination in selected foodstuffs and potential health risk assessment along the artisanal gold mining, Gilgit-Baltistan, Pakistan". Environmental Geochemistry and Health. <https://doi.org/10.1007/s10653-017-0007-6>

PROJECTS

[08/2017 – 06/2020]

Behavior of the Indian Lithosphere Mantle Beneath the Western Himalayan Syntaxis

I was engaged as a researcher in a research project of the Department of Earth Sciences, CUI, Abbottabad Campus and Key Laboratory of Continental Collision, Institute of Tibetan Plateau Research, Chinese Academy of Sciences, jointly approved by the Pakistan Science Foundation (PSF) and National Science Foundation, China (NSFC). The project aimed at the review of seismicity and crustal deformation across the Himalayas and Karakoram Mountains with concerns of science and society, including geo-hazard assessment along the China-Pak Economic Corridor (CPEC).

RESEARCH SKILLS

Hydrological Modeling

Climate Modeling

Data Analysis

Seismic Data Interpretation

Wireline Log Interpretation

SKILLS

Matlab / Bash / R / NetCDF / Linux / ArcGis 10.8 / QGIS / SWAT+ / HEC HMS / Golden Software Strater / Surfer 2D & 3D mapping, modeling & analysis software

HONOURS AND AWARDS

[06/2020] Ministry of University and Research

PON Fellowship Awardee, PhD

[08/2012] COMSATS University Islamabad, Abbottabad Campus

Institute and Campus Gold Medalist in Bachelors Degree

[09/2008] COMSATS University Islamabad, Abbottabad Campus

Bachelor's Degree Scholarship Recipient

MANAGEMENT AND LEADERSHIP SKILLS

Departmental coordinator at the Department of Earth Sciences (2016)

COMSATS University Islamabad, Abbottabad Campus

- Overseeing departmental faculty meetings
- Coordinating with undergraduate students, addressing their daily concerns, and facilitating the resolution of issues
- Managing the onboarding process for new students and ensuring a smooth transition
- Organising students week in each semester

Departmental operating officer at the Department of Earth Sciences (2017)

COMSATS University Islamabad, Abbottabad Campus

- Collaborating with faculty to streamline departmental operations
- Developing and implementing departmental policies and procedures
- Liaising with other departments to foster interdisciplinary collaboration
- Supervising departmental events and activities
- Serving as a point of contact for external stakeholders and fostering positive relationships
- Conducting regular assessments to enhance departmental efficiency and effectiveness.

CONFERENCES & SEMINARS

[12/08/2020] Islamabad, Pakistan

2nd Conference on Sustainability in Civil Engineering (CSCE'20)

[20/01/2014 – 21/01/2014] Serena Hotel Islamabad, Pakistan

International Conference on the Asian Monsoon and Climate Change

SOCIAL ACTIVITIES

Volunteerly helped over 500 persons to win PhD scholarships worldwide

Served as volunteer for fund raising for flood affecties in Pakistan (2010)

Organised welcome & farewell parties, literacy, debate and sports competetion in students week during Bachelors (2008-2012)

Served as volunteer in relief activities in Balakot-Earthquake Pakistan (2005)

DRIVING LICENCE

Driving Licence: B

07/2024 – 07/2034

LANGUAGE SKILLS

Mother tongue(s): Urdu

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Pushto

LISTENING B2 READING B1 WRITING B1

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B1

Hindko

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Italian

LISTENING A2 READING A2 WRITING A1

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

Panjabi

LISTENING C1 READING B2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user