GABRIELE D'ANNUNZIO UNIVERSITY CHIETI – PESCARA
PHD COURSE – EARTHQUAK AND ENVIRONNMENTAL HAZARDS (EEH) – CYCLE XXXVII

PhD Student: Shakeel Ahmed Talpur
Nationality: Pakistan

Supervisor: Prof. Francesco Stoppa
Co–Supervisor: Dr. Gianluigi Rosatelli

EDUCATION

- ***Master of Environmental Engineering*** *in 2020, China University of Geosciences, Wuhan, P. R. China*
- ***Master of Science in Environmental Sciences*** *in 2016, Quaid-I-Azam University, Islamabad, Pakistan*
- ***Bachelor of Science*** *in Physics in 2014, University of Sindh, Pakistan*

ACHIEVEMENT

- ***A Fully Funded Chinese Government Scholarship*** *2017 – 2020*

RESEARCH EXPERIENCES

- ***Research Associate*** *(Nov 2020 – Feb 2022), Aga Khan University, Karachi Pakistan*
- ***M.S–Research Scholar****, (Sep 2017 – Jun 2020) at the Hydrogeochemistry Laboratory, School of Environmental Studies, China University of Geosciences Wuhan, P. R China*

RESEARCH INTEREST "CURRENT AND FUTURE PLAN"

- ***Suitability assessment*** *of surface and subsurface water for drinking and irrigation purposes*
- *Pollutant's spatial and temporal distribution and* ***human health risk assessment***
- *Remediation of emerging pollutants using adsorption technique* ***As(V) & As(III)***
- ***(Future expansion plan)*** *to explore dynamics of* ***micro & nano plastic*** *contamination in the aquafers.*

RESEARCH CONTRIBUTIONS

- ***Published "7"*** *research articles as first and co-authored*
- *One manuscript is* ***"under the peer review"*** *in a Korean Journal (Membrane and Water Treatment)*
- *One manuscript is* ***"under writing"*** *on the drinking water quality*

REVIEW CONTRIBUTION

- *Recently reviewed a manuscript for the Springer Journal (****Environmental Monitoring and Assessment****) IF – 2.513*

PROPOSED DOCTORATE RESEARCH

GIS and multivariate analysis based hydrogeochemical chracterization, and suitability and human health risk assesment of emerging contaminants in surface and subsurface water in the abruzzo region, Italy

1st Year

SAMPLES COLLECTION

- *Surface water*
- *Groundwater*
- *Sediments*

LABORATORY ANALYSIS

- ***Physical parameters***
  - ✓ *Temp, pH, TDS, EC, Salinity, Color, Odor, and TSS*
- ***Chemical parameter***
  - ✓ *DO, COD, BOD, Hardness, F^-, Na^+, Ca^+, Mg^+, K^+, HCO_3^-, Cl^-, SO_4^-, NO_3^-, NO_3-N, As, Cd, Ni, Zn, Cr, Co, Pb, and Fe*
- ***Biological parameter***
  - ✓ *Total and fecal coliforms, E. coli, salmonella and related harmful pathogens*

EXCHANGE PROGRAM MOBILITY

2nd Year

SEDIMENTS CHARACTERIZATIONS

- *Morphology and microstructure*
- *Crystalline configuration*
- *Chemical composition*

MODELING AND INDEXING

- ***Human health risk assessment***
  - ✓ *Hazard quotient*
  - ✓ *Chronic daily Intake*
- ***Drinking water quality***
  - ✓ *Water quality index,*
  - ✓ *Pollution load*
- ***Irrigation water quality***
  - ✓ *Charge balance error*
  - ✓ *Sodium adsorption ratio,*
  - ✓ *Permeability index, Sodium percent*
  - ✓ *Magnesium ratio*
  - ✓ *Residual sodium carbonate*
  - ✓ *Kelly ratio,, Piper plot*
  - ✓ *USSL salinity plot*

2nd Year

STATISTICAL ANALYSIS

- ***Univariate and multivariate analysis***
- ***Interested in learning statistical packages***
  - ✓ *R program*
  - ✓ *SAS*
  - ✓ *Python*

GIS-ILLUSTRATIONS

- ***Spatial and temporal distribution***
  - ✓*Point location and density*
  - ✓*IDW*
  - ✓*Kriging*

3rd Year

WRITE-UP AND PUBLICATIONS

- ***Research publications***
- ***Thesis writing***
- ***Scientific reports***

Thank you