

Assistant Professor

(Lab In-charge of Advanced Water & Waste water Quality Control)

US-Pakistan Center for Advanced Studies in Water (USPCAS-W)

MUET, Jamshoro

E-mail address: sshassan.uspcasw@faculty.muett.edu.pk (Official); ssarahassan@gmail.com (Personal)

Mobile No: +92-342-3432459

Research publications

Total Publications	Total Impact Factor	Total Citations	h-index	RG Score
22	90.915	368	13	22.5

Objective:

To pay the knowledge of advanced chromatographic, spectroscopic and electro analytical techniques, fabrication of advanced nano-materials/nano-adsorbents and their applications to remove and detection of the hazardous metal ions as trace level, organic/inorganic/biological pollutants from environmental, real water and industrial waste water samples using nano sensor and catalysis, water/waste water quality parameters (Physical, chemical and biological), green roof recycling wetlands. I am looking for a position in any sound informative institute/university/organization that successfully uses the knowledge of research & development in the fields of environmental chemistry and advance material sciences.

Technical Skills:

Command on following Analytical Instruments

UV-Visible Spectrophotometer, FTIR Spectrophotometer, CHNS Elemental Analyzer, Voltammetry, Imaging Techniques (Atomic Force Microscopy, Transmission Electron Microscopy, Scanning Electron Microscopy, X-ray Diffraction), Polarography, Potentiometry, Turbidimeter, Multi Ion Probe Sensor, LC-MS/MS, High Performance Ion Chromatography (HPIC), Gas Chromatography-Mass Spectrometry (GC-MS), and other Advanced Techniques., 32 NEQS,SEQS (Physical, Chemical and Biological) Water /Waste Water Quality Control Parameters.

Courses Taught:

- Physical, Chemical & Biological Processes (MS)
- Chemistry & Biology for WASHs (MS)
- Advanced Nanomaterials (MS)
- Pre-requisite course of Environmental Chemistry (MS)
- Lab Analytical Methods (Ph.D)
- General Chemistry (BS)

Research Students Supervising:

I am currently supervising 5 MS students

Thesis supervision completed:

MS- Students: 13 (pass out).

Ph.D student: 01 (Pass out)

Research Projects Completed:

- 1) Mehran University of Engineering and Technology (MUET) Clean Water Project (Co-PI).
Role: In this project, I have analyzed all chemical parameters including heavy metals in MUET water treatment plant.
- 2) Funded By: USPCAS-W, MUET Jamshoro
- 3) Treatment and reuse of wastewater of fish processing industry (Team member)
(Funding by: USPCAS-W, MUET Jamshoro AND Industry-Academia Collaborations)
- 4) Development of efficient reuse system for textile processing industry (Team member)
(Funding by: USPCAS-W, MUET Jamshoro AND Industry-Academia Collaborations)
- 5) Complete Analysis of water quality physical, chemical and biological analysis of MDC, UNICEF project.
- 6) Ultrafast photo-catalytic degradation of the organic dyes by using metal/metal oxide nanoparticles (awarded by NRPU-HEC project)
HEC/R&D/NRPU/2017/10113, PAKISTAN
- 7) RINU start up project, awarded by IEC, MUET entrepreneurship program
- 8)

Research Projects Running:

- 1) Bio-sensing platform based on nanoparticles for waterborne bacterial pathogens (awarded by NRPU-HEC project),
HEC/R&D/NRPU/2017/9240, PAKISTAN

2) Pesticides removal by point of use nanofiltration membrane and their rapid detection in water using liquid chromatography mass spectrometry. (awarded by NRPU-HEC Project)
Project No: Ref No. 20-16460/NRPU/RegLamp:D/HEC/2021 2021

Awards/Honors:

- ❖ Awarded **six months visiting faculty** under **Faculty Exchange Program** at **University of Utah, USA**.
- ❖ Awarded **Interim Placement of Fresh Ph.D program (IPFP)** for one year as an **Assistant professor** by HEC, Islamabad Pakistan.
- ❖ Awarded of **six months Ph.D fellowship** under the **International Research Support Initiative Program (IRSIP)** sponsored by **Higher Education Commission (HEC) Islamabad**, Pakistan to carry out the part of Ph.D research work at **Monash University, VIC, 3800, Australia** under the supervision of **Prof. Dr. Alan M. Bond (RL Martin Distinguished Professor of Chemistry)**.
- ❖ Worked under the **project of Higher Education Commission (HEC)**, Pakistan as **Research Associate** at NCEAC University of Sindh, Jamshoro for three year period with titled “synthesis and characterization of drug-derived gold nanoparticles and their applications in sensors”.
- ❖ Awarded “**2216-Research Fellowship Program for Foreign Citizens**” for one year period by the Scientific & Technological Research Council of Turkey (TUBITAK) at Anadolu University Eskisehir, Turkey.
- ❖ Awarded “**2221- Visiting Scientist Fellowship Program**” for one year period by the Scientific & Technological Research Council of Turkey (TUBITAK) at Abdullah Gul University Kayseri, Turkey.
- ❖ Organized **One Day Poster Competition** for MS students of Env. Eng. at USPCAS-W, MUET Jamshoro on 2015.
- ❖ Organized **One Day Poster Competition** for MS students of Env. Eng. & WASH at USPCAS-W, MUET Jamshoro on 2016.
- ❖ Invited as a Speaker for R & D UTIB Brokerage Event 2018 in Turkish Textile and Clothing Sector, was held on 8th and 9th 2018 in Bursa, Turkey.

Research & Teaching Experience:

- ❖ **Six months** worked as **Research Visiting Faculty** at University of Utah, USA.
- ❖ **Four years Ph.D. Research Fellow** under HEC Project at NCEAC University of Sindh, Jamshoro, Pakistan.
- ❖ **Six months Visiting Ph.D Research Fellow** at Monash University, Australia.
- ❖ **One Year 2221-Visiting Scientist (Post-Doctoral) Fellowship** at Abdullah Gul University Kayseri, Turkey.
- ❖ Worked as an **Assistant professor for one year period** in Metallurgy & Materials Engineering Department at MUET, Jamshoro under Interim Placement of Fresh Ph.D Program (IPFP) by Higher Education Commission (HEC), Islamabad Pakistan.
- ❖ Worked as an **Assistant professor** under **USAID Project with partnership of University of Utah, USA and MUET Jamshoro** at US.-Pakistan Center for Advanced Studies in Water (USPCAS-W), MUET, Jamshoro Sindh Pakistan since **May 2015 to 11th December 2019**.
- ❖ Currently working as an **Assistant Professor (BPS-19)** at USPCAS-W, MUET, Jamshoro from 12th December 2019 to till date.

PUBLICATIONS (Total publications. 22)

- 1) Azizullah ., **Syeda Sara Hassan.**, Arjuman Zaidi., (2022).Assessment of water quality and sediment contamination in Mehran University water treatment plant from kalri baghar (K.B.) feeder river Indus, Sindh. *Pakistan journal of chemistry*.(accepted may 2022)
- 2) **Syeda Sara Hassan**, Shane Zehra, Zubair Ahmed., (2021). Effective removal of arsenic in water by inductively coupled plasma mass spectrometry: Equilibrium and kinetic study. *Research Square*. (Preprint). <http://dx.doi.org/10.21203/rs.3.rs-245998/v1>.
- 3) Sallahuddin Panhwar, ,Hasan Ilhan, Syeda Sara Hassan, Adem Zengin, Ismail Hakkı Boyacı, Ugur Tamer. (2020). Dual Responsive Disposable Electrode for the Enumeration of Escherichia coli in Whole Blood. *Electroanalysis*, 32(10), 2244-2252.
- 4) Sallahuddin Panhwar, **Syeda Sara Hassan**, Rasool Bux Mahar, Krista Carlson, Manzoor ul Haq Rajput and Muhammad Younis Talpur. (2019). Highly Sensitive and Selective Electrochemical Sensor for Detection of Escherichia coli by Using L-Cysteine Functionalized Iron Nanoparticles. *Journal of The Electrochemical Society* **166**, B227.
- 5) Aziz Ullah, **Syeda Sara Hassan**, Abdul Khaliq Ansari, Nusrat Begum Jalbani, Rasool Bux Mahar, Zubair Ahmed, Rafi Zaman Brohi, Mohammad Younis Talpur. (2019). Environmental assessment of toxic metals from Canal on Mehran University water treatment plant, Jamshoro, Pakistan. *International Journal of Environmental Science and Technology*. 16, 6785–6796.
- 6) **Syeda Sara Hassan**, Krista Carlson, Swomitra Kumar Mohanty, Sirajuddin, Ali Canlier. (2018). Ultra-rapid catalytic degradation of 4-nitrophenol with ionic liquid recoverable and reusable ibuprofen derived silver nanoparticles. *Environmental Pollution*. 237, 731-739.
- 7) Sallahuddin Panhwar, Syeda Sara Hassan, Rasool Bux Mahar, Ali Canlier, Munazza Arain. (2018). Synthesis of l-Cysteine Capped Silver Nanoparticles in Acidic Media at Room Temperature and Detailed Characterization. *Journal of Inorganic and Organometallic Polymers and Materials*.28, 863-870.