

# DR. FIDA HUSSAIN

(PhD Environmental Engineering, Post Doc. Materials Synthesis and Catalysis)

## PROFILE SUMMARY:

An academic, researcher and a proactive environmental specialist, having 18 years of national and international experience. Worked and achieved the assigned goals in Pakistan Council of Research in Water Resources, United Nations Mission in Sudan and United Nation Mission in Central African Republic, University of Swat, Wuhan University of Technology, Wuhan Technology and Business University, Pak-Austria Fachhochschule: Institute of Applied Sciences and Technology, Pakistan.

## Research Experience/Interest:

- Synthesis & Characterization of Catalysts
- Adsorption, Gases adsorption, CO<sub>2</sub> reduction
- Photocatalysis Catalysis,
- Sustainable Development, Green Production
- Climate Change, Adaptation and Mitigation
- Water Quality Monitoring, Remediation, Treatment
- Solid waste/Hazardous waste
- Wastewater Treatment
- Water, Sanitation and Hygiene, Advocacy, consultancy/ Training & Capacity Building

## Experience:

**Pak-Austria Fachhochschule:** Institute of Applied Science & Technology, Haripur, Pakistan  
*Assistant Professor, Fachhochschule certified faculty from FH Joanneum and MCI, Austria.*

**Jan 2020- to date**

- ❖ Teaching to undergraduate and graduate Chemical Engineering and Environmental Process and Energy Engineering
- ❖ Developed courses, member of Borad of Studies and Board of Faculty.
- ❖ Launched from scratch BS in Applied Chemistry Program.
- ❖ Industrial Liaison and Internships coordinator
- ❖ Member of various committees of the institute (Procurement, Marketing, appellate, grievances, anti-tobacco and narcotics, admission).
- ❖ Established and In-charge of Environmental Testing Lab, for water and wastewater analysis.
- ❖ Established and In-Change of Hi-Tech Research Lab, Hands on (XRD-7000-Shimadzu, GC-TCD/FID, NEXIS 2030, and GC-MS 2030 Shimadzu, AAS 7000 and FTIR IR Tracer 100 Shimadzu)
- ❖ Faculty advisor PAF-IAST Welfare Society and HEC Green Youth Moment
- ❖ Supervision of Master Thesis (Modelling of climate Change) and Final year (Recovery of Lithium from used Lithium-Ion batteries) projects.



## ***Wuhan Technology & Business University, Wuhan, China***

***Associate Professor***

**May-2018- Jan 2020**

- ❖ Developed courses regarding Sustainable Development, SDGs, Climate Change, Adaptation and Mitigation, Teaching courses and Research.
- ❖ Scientific research work (published papers and Projects).
- ❖ International Cooperation/Collaboration.

## ***Wuhan University of Technology, Wuhan, Wuhan, China***

***Post-Doctoral Research Fellow***

**August-2016- August-2018**

- ❖ Synthesis and characterization of bimetallic catalysts for Chromium and Arsenic removal.
- ❖ Adsorption, Catalysis, Photocatalysis and Fenton catalysis

## ***United Nations Multidimensional Integrated Stabilization Mission in Central African Republic (MINUSCA)***

***WATSAN In-Charge-team site***

**February-2017- June -2017**

- ❖ Water treatment plant, installation, maintenance.
- ❖ Water, wastewater testing, training and capacity building of staff
- ❖ Construction, supervision of WATSAN infrastructure

## ***University of Swat, Pakistan***

***Assistant Professor***

**August-2015- August -2016**

- ❖ Teaching to undergraduate and master's degree students.
- ❖ Supervision of research students (B.S and Master students)
- ❖ Submission of research proposals and concept papers and fund raising.

## ***United Nations Mission in Sudan(UNAMID)***

***Water Analyst***

**December -2010- August -2012**

- ❖ Worked as in-charge water quality laboratory mission headquarter.
- ❖ Water and Environmental protection infrastructure, installation
- ❖ Training and capacity building for water quality staff, field visit for monitoring and evaluation. Development of water and environmental safety plans.

## ***Pakistan Council of Research in Water Resources, Government of Pakistan***

***Research Officer***

**April-2006- December -2010**

- ❖ Contribute to institutional strengthening, capacity building programs on water disinfection and water quality analysis using wide range of equipment and field rapid kits.
- ❖ Advocacy for public wash services, culture and gender sensitivity, consideration of equity dimensions at different levels for better wash governance, and correspondence with donor agencies.
- ❖ Reporting, field coordination, implementation and supervision of field teams in PCRWR-developmental projects and emergency IDPs camps in collaboration of WHO/UNICEF/UNHCR



## Education

- **2016-2018 Post-Doctorate (Material synthesis & Catalysis)**  
Wuhan University of Technology, Wuhan, China
- **2012-2015 Doctor of Philosophy (Environmental Chemistry)**  
Wuhan University of Technology, Wuhan, China
- **2004-2006 Master of Philosophy (Physical/Environ. Chemistry)**  
University of Peshawar, Peshawar, Pakistan
- **2001-2004 Master of Science (Chemistry)**  
University of Peshawar, Peshawar, Pakistan
- **1999-2001 Bachelor of Science (Biological Sciences)**  
University of Peshawar, Peshawar, Pakistan

## Courses (Coursera online)

- Sustainable Development - Ideas and Imaginaries, University of Copenhagen, Denmark
- Circular Economy - Sustainable Materials Management, Lund University, Sweden
- Science and Engineering of Climate Change, EDHEC Business School, France
- Urban Nature: Connecting Cities, Sustainability and Innovation, Lund University, Sweden
- Cities and Consumption: Urban Sustainability and the sharing Economy, Lund University, Sweden
- Greening the Economy, Sustainable Cities, Lund University, Sweden
- Mandarin Chinese 1, 2 and 3 and 4, Shanghai Jiao Tong University

## Awards and Honors

- Merit Scholarship from University Grants Commission for bachelor Studies-1999-2001
- Merit scholarship form HEC for M.Phil. 2005-2006
- Chinese Government Scholarship for PhD 2012-2015
- Outstanding graduate of the year 2015 award by Wuhan Technology, Wuhan China

## Projects and Fundings

Startup research grant from HEC during IPFP tenure 2016 (0.5 million completed)

Research funds from WTBU, Wuhan China, 2018 (50,000 RMB, Completed)

Research project NSFC, China, 2024 (ready to Submit)

Joint Research project under PSF, Pakistan and NSFC, China 2024 (ready to submit)



## Trainings

Training on Fachhochschule Teaching and Management, at FH Joanneum and MCI, Austria, March 2021 to July 2021.

## LEADERSHIP

- **2007-2009** As in-charge Water Quality Section PCRWR, Peshawar,
- **2009-2010** As Officer in-charge PCRWR office Muzaffarabad.
- **2010-2012** As in-charge Water quality, United Nations Mission's Headquarter, El-Fasher Sudan
- **2013-2015** As Head of Study Department, ICEA, Wuhan University of Technology, Wuhan, China
- **2021-2024** As In-charge Environmental Testing Lab, PAF-IAST
- **2021-2024** In-Charge Hitech Research Lab (Characterization Lab) PAF-IAST

## Courses Taught:

1. Chemistry and Stoichiometry	2. Climate Change	3. Sustainable Development,
4. Pollution Control Technologies	5. Analytical Chemistry	6. Organic & Inorganic Chemistry
7. Environmental Engineering	8. Physical Chemistry	9. Solid Waste Management
10. Environmental Management System	11. Toxicology	12. Analytical and Characterization Techniques

## Skills & Abilities

- ❖ Interpersonal skills.
- ❖ Communication skills.
- ❖ Problem solving skills.
- ❖ Proposal writing skills.
- ❖ Team working skill.
- ❖ Laboratory/Research skills
- ❖ Computer skills

## Languages

- ❖ English (Fluent)
- ❖ Urdu (Native)
- ❖ Pashto (Mother language)
- ❖ Chinese (Basic)
- ❖ Arabic (Very Basic)



## Publications

### To be Submitted/Resubmitted Manuscripts:

- I. **H. Fida**, G.K. Zhang, S. Guo. “Simultaneous removal of hexavalent chromium and organic dyes from aqueous medium using Fe-Mn supported montmorillonite”,
- II. **H. Fida\***, M. Alomer, W. Ahmad, S. Guo, A. Saeed, Z. Dan; Photocatalytic reduction of CO<sub>2</sub> and Cr(VI) using flowerlike In-doped CdS nanostructures, Re-submission awaiting .
- III. **H. Fida**, G.K. Zhang, S. Guo, “Simultaneous removal of As(III) and Cr(VI) using bimetallic Mn/Sn catalyst”, *Ready to submit*,

### Patent

Patent #: 209/2021:, Abdul Naeem, Tooba Ahamd, Zahoor Ahamd, Fida Hussain, Tabassum Malik, Ihtisham Wali khan, **A process for preparation of adsorbent for purification of wastewater**,

### Published Manuscripts (Impact Factor 152.2 with Citations 1065): h-index: 13. i10 index: 13

1. M. Muqeet, H. Malik, S. Panhwar, I.U. Khan, **F. Hussain**, Z. Asghar, Z. Khatri, R.B. Mahar, Enhanced cellulose nanofiber mechanical stability through ionic crosslinking and interpretation of adsorption data using machine learning, **International Journal of Biological Macromolecules**, **237 (2023) 124180. Impact Factor: 8.025**
2. Alomar, M., Almutairi, B. S., Alterary, S. S., Awad, M. A., **Hussain, F.**, Hendi, A. A., . . . Al-Hoshani, N. Self-Regenerating Solar Evaporation System for Simultaneous Salt Collection and Freshwater from Seawater. **Water** 15(20) (2023), 3697. **Impact Factor: 3.4**
3. Shahzad, A., Ali, J., Ullah, M. W., Aziz, K., Javed, M. A., **Hussain, F.**, . . . Yang, G. (2023). Fe-based dual-center heterogeneous catalyst assisted with reduced graphene oxide for the activation of peroxymonosulfate. **Advanced Composites and Hybrid Materials**, 6(5),(2023), 185. **Impact Factor: 20.1**
4. Muhammad, K.S. Dayisoğlu, H. Khan, M.R. Khan, I. Khan, **F. Hussain**, A. Basit, M. Ali, S. Khan, M.J.H. Idrees, An Integrated Approach of Hypobaric Pressures and Potassium Permanganate to Maintain Quality and Biochemical Changes in Tomato Fruits, **Horticulture** 9 (2022) 9. **Impact Factor: 2.92**
5. Guo, S.; Zhang, L.; Chen, M.; Ahmad, F.; **Fida, H.**; Zhang, H. Heterogeneous Activation of Peroxymonosulfate by a Spinel CoAl<sub>2</sub>O<sub>4</sub> Catalyst for the Degradation of Organic Pollutants. **Catalysts** 12, (2022), 847. **Impact Factor 4.501**
6. W. Ahmad , Z. Amin , T. Rehman , F. Hussain , M. Ilyas. Treatment of dyes contaminated water using surfactants modified activated carbon derived from rice husk, (2022), 248, 288-299, Impact Factor 1.1
7. R. Ullah, W. Ahmad, I. Ahmad, M. Khan, M. Khattak **F. Hussain**, Adsorption and recovery of hexavalent chromium from tannery wastewater over magnetic max phase composite, Separation Science and Technology, (2021), 56 (3), 439-452 , **Impact Factor: 2.799**
8. W. Ahmad, Q. Ahmad, M. Yaseen, I. Ahmad, **F. Hussain**, B. Mohamed Jan, R. Ikram, M.M. Stylianakis, G. Kenanakis, Development of Waste Polystyrene-Based Copper Oxide/Reduced Graphene Oxide Composites and Their Mechanical, Electrical and Thermal Properties,



*Nanomaterials* 11(9), 2021, 237211, **Impact Factor: 5.719**

9. S. Guo, H. Wang; W. Yang; **H. Fida**; L. You; scalable synthesis of Ca-doped Fe<sub>2</sub>O<sub>3</sub> with abundant oxygen vacancies for enhanced degradation of organic pollutants through peroxydisulfate activation, *Applied Catalysis B: Environmental*, 262, (2020) 118250, **Impact Factor: 24.31**, **Citations: 101**
10. M. Zeeshan, W. Ahamd, **H. Fida\***, Phytostabilization of the heavy metals in the soil with biochar applications, the impact on chlorophyll, carotene, soil fertility and tomato crop yield, *Journal of Cleaner Production*, 255, (2020), 120318, **Impact Factor: 11.07**, **\*Corresponding author, Citations: 84**
11. M. Zeeshan, **H. Fida\***, W. Ahamd, “Impact of Biochar Particle Sizes on the Bioaccumulation of the Heavy Metals and Their Target Hazard Assessment”, *Environmental Engineering Science*, 37 (9), 614-622, 2020, **Impact Factor: 1.907**, **\*Corresponding author & equal contributor, Citations:**
12. **H. Fida\***, W. Ahamd, A. Ahamd, Guo Sheng, “Enhanced and facile desulphurization of commercial oil using air assisted performic acid oxidation system”, *Environmental Engineering Science*, 36 (2019) 1404-1411 **Impact Factor: 1.907** **\*Corresponding author, Citations:**
13. M. Alomar, Y. Liu, W. Chen, **H. Fida**, “Controlling the growth of ultrathin MoS<sub>2</sub> nanosheets/CdS nanoparticles by two-step solvothermal synthesis for enhancing photocatalytic activities under visible light”, *Applied Surface Science*, 480 (2019). 1078-1088, **Impact Factor: 7.392**, **Citations: 13**.
14. W. Yang, S. Guo, J. Chen, A. Naeem, **H. Fida**, M. Hamayun, “A novel iron modified montmorillonite composite and its enhanced performance for tetracycline hydrochloride adsorption”, *Functional Materials Letters*, (2019), DOI: 10.1142/S1793604719500140, **Impact Factor: 1.49**. **Citations: 2**
15. W. Yang, S. Guo, J. Chen, A. Naeem, **H. Fida**, M. Hamayun, “Efficient degradation of refractory contaminants with silver ferrite for persulfate activation”, *Functional Materials Letters*, (2019), DOI: 10.1142/S1793604719500838, **Impact Factor: 1.49**.
16. Z. Sun, C. Xiao, **H. Fida**, G. K. Zhang, “Synthesis of stable and easily recycled ferric oxides assisted by Rhodamine B for efficient degradation of organic pollutants in heterogeneous photo-Fenton system”, *Journal of Cleaner Production*, 196 (2018) 1501-1507, **Impact Factor: 11.07**, **Citations: 14**
17. S. Guo, Z.Y. Yang, Z. Wen; G. K. Zhang, **H. Fida**; J. Chen, “Reutilization of iron sludge as heterogeneous Fenton catalyst for the degradation of dyes: Role of sulfur and mesoporous structure”, *Journal of Colloid and Interface Science*, 532 (2018) 441-448 **Impact Factor: 9.965**, **Citations: 40**
18. Z. Ding; S. Guo, X. Wu, **H. Fida**, “One-step synthesis of spherical NaTaO<sub>3</sub> and graphene spherical NaTaO<sub>3</sub> nanoparticles with enhanced photocatalytic activity for NO purification”, *Functional Materials Letters*, 11 (2018) 1850070, **Impact Factor: 1.49**, **Citations: 4**
19. S. Guo, A. Naeem, **H. Fida**, M. Hamayun, M. Muska, “Removal of Cu (II) from aqueous solution by iron vanadate: Equilibrium and kinetics studies”, *Desalination and Water Treatment*, 75 (2017) 124-131. **Impact Factor: 1.273**, **Citations: 8**.
20. S. L. Badshah, A. Naeem, M. Hamayun, K. H. Shah, **H. Fida**, “Comparative sorption studies of chromate by nano-and-micro sized Fe<sub>2</sub>O<sub>3</sub> particles”, *De Gruyters Open Chemistry Journal*, 15





(2017) 147–155. **Impact Factor:1.977**

21. **H. Fida**, G.K. Zhang, S. Guo, A. Naeem, “Heterogeneous Fenton degradation of organic dyes in batch and fixed-bed using La-Fe montmorillonite as catalyst”, *Journal of Colloid and Interface Science*, 490 (2017) 859-868. **Impact Factor: 9.965, Citations: 98.**
22. T. Mahmood, A. Khan, A. Naeem, M. Hamayun, M. Muska, M. Farooq, **H. Fida**, “Adsorption of Ni(II) ions from aqueous solution onto a fungus Pleurotus ostreatus”, *Desalination and Water Treatment*, 57 (2016) 7209-7218. **Impact Factor: 1.273, Citations: 3.**
23. U. Din, M. S. Shaharun, D. Subbarao, **H. Fida**, A. Naeem, “Influence of niobium on carbon nanofibre based Cu/ZrO<sub>2</sub> catalysts for liquid phase hydrogenation of CO<sub>2</sub> to methanol”, *Catalysis Today*, 259 (2016) 303-311. **Impact Factor: 6.56, Citations: 23**
24. N. Ahmad, Z. Ali, N. Ali, N. Shahzad, **H. Fida**, S. M. Abbas, “Cerium modified pillared montmorillonite supported cobalt catalysts for Fischer Tropsch Synthesis”, *Journal of the Chemical Society of Pakistan*, 37(04), (2015) 687-695. **Impact Factor: 0.68, Citations: 2.**
25. **H. Fida**, S. Guo, G.K. Zhang, “Preparation and characterization of bifunctional Ti-Fe kaolinite composite for Cr(VI) removal”, *Journal of Colloid and Interface Science* 442 (2015) 30-38. **Impact Factor: 9.965, Citations: 116**

### Conference Papers Presented

1. “*Catalytic Oxidative Desulfurization of Petroleum Distillates over Metal Oxides Catalysts*”, 8<sup>th</sup>, International Conference: **Environmentally Sustainable Development – ESDev-VIII**, COMSATS University Islamabad. **Abbottabad, Pakistan**, 22-23 August, 2019
2. “*Sorption behavior of Fe<sub>2</sub>O<sub>3</sub> and Fe<sub>2</sub>O<sub>3</sub> nanopowder towards removal of Cr (VI) anions from aqueous solutions*”, 3<sup>rd</sup> **Water Research Conference**, 11-14 Jan-2015, **Shenzhen, China**
3. “*Comparative sorption studies for the effective removal of arsenate from aqueous solution by FePO<sub>4</sub>, virgin and iron-impregnated activated carbons*”, 3<sup>rd</sup> **Water Research Conference**, 11-14 Jan-2015, **Shenzhen, China.**
4. “*Influence of niobium on carbon nanofiber based Cu/ZrO<sub>2</sub> catalysts for liquid phase hydrogenation of CO<sub>2</sub> to methanol*”, **oral/poster** in The 1st International Symposium on **Catalytic Science and Technology in Sustainable Energy and Environment** 8-10 October, 2014, **Tianjin China,**

