**Engr. Dr. Meesam Ali**

**Email address:** meesam62@gmail.com

**Voice: +92**-321-4259942

**Research IDs:**

**RG:** https://www.researchgate.net/profile/Meesam\_Ali2/publications

**ORCID:** https://orcid.org/0000-0002-8744-4450

**WOS:** https://publons.com/researcher/3183075/meesam-ali/

**Biography:** I have completed my Ph.D. in June-2021 from a leading school of public sector university, East China University of Science and Technology (ECUST), Shanghai, PR China on a fully-funded scholarship by the Chinese Scholarship Council (CSC). I have 10 years of professional experience as an Assistant Professor in a public sector university, MNS-University of Engineering and Technology Multan, Pakistan. Over the course of my doctoral degree, I have authored/co-authored more than 25 research articles in different leading journals including Chemical Engineering Journal, Journal of Hazardous Materials, Separation and Purification Technology, Journal of Environmental Chemical Engineering, and Environmental Science and Pollution Research with more than 200 cumulative impact factor. I am offering my services as a reviewer for the Journal of Environmental Chemical Engineering, Water Science and Technology, and Water Environment Research.

**Career Objectives:** Seeking an opportunity in the field of chemical engineering, environmental science and engineering, material synthesis, and other miscellaneous fields to excel as a researcher and professional member. I would like to utilize and enhance my skills to conduct quality research work and endeavor for further transferring of the knowledge.

**Research Interests:**

Advanced Oxidation Processes, Materials Synthesis and Characterization, Fenton and Fenton-like Reactions, Nano-catalysis, Carbonaceous Materials, Groundwater Remediation, Water or Wastewater Treatment, Environmental Pollution Control

**Personal Information:**

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| Marital StatusNationality | MarriedPakistani | Date of BirthCNIC | 17-01-198835202-3180575-5 |

**Education:**

**2018-2021** **Ph.D. in Environmental Science and Engineering**

School of Resources and Environmental Engineering, East China University of Science and Technology (ECUST), Shanghai, PR, China

**2015-2018 Masters of Science in Chemical Engineering**

Department of Chemical Engineering, University of Engineering and Technology (UET), Lahore, Pakistan

**2005-2009 Bachelors of Science in Chemical Engineering**

Department of Chemical Engineering, University of the Punjab (PU), Lahore, Pakistan

|  |  |
| --- | --- |
| **Awards / Certificates**  | **Research Tools**  |
| * 2020, Winner of **Chinese Scholarship Council (CSC), Outstanding International Student Award**, PR China.
* 2020, Winner (1st Prize) of International Comprehensive Award (The 14th Environmental Conference for Doctoral Students), Tsinghua University, Beijing, PR China.
* 2020, Winner (1st Prize) of International Comprehensive Award, CIE ECUST, PR China.
* 2020-2021, Winner of ECUST outstanding journal paper award for international postgraduates.
* 2018-2020, Honorary Credential of active participation in international integration activities organized by CIE, ECUST, PR China.
* 2010-2020, Participated in more than 5 national & international conferences/workshops as a trainer, presenter as well as contributor.
 | * **XPS**
* **SEM**
* **FTIR**
* **BET**
* **XRD**
* **TEM**
* **EDS**
* **FE-SEM**
 |

**Awards/Certificates:**

**Teaching/Academic Experience:**

***2024- to date Serving as Assistant Professor in MNS University of Engineering and Technology Multan, Pakistan***

***2014- to 2024*** ***Served as Lecturer in MNS University of Engineering and Technology Multan, Pakistan***

**Key Responsibilities:**

* Offering my services as an Assistant Professor on a regular basis (BPS-19)
* Teaching Area: **Environmental Engineering, Enviornmental Chemistry, Waste Management, Energy and Environment, Wastewater Treatment, Engineering Management, Engineering Maintenance**
* Involved in the research and designing of new courses and materials
* Assessing student’s course work and material
* Involved in the setup of exams and the marking of results
* Responsible for the departmental administrative tasks
* Providing mentoring, advice, and support to students on a personal level
* Implementing University research projects and involved in its publication
* Actively leading class discussions and encouraging debate
* Exam Coordinator of the Chemical Engineering Department
* In-charge of Unit Processes Lab, Mass Transfer Lab and Environmental Engineering Lab

**Industrial Experience:**

***2013-2014 Worked as Shift Engineer in Hunza distillery Pvt Limited Faisalabad, Pakistan***

**Key Responsibilities:**

* Worked as Shift Engineer in erection and commissioning phase of distillery plant including **Fermentation**, **Distillation**, **Biogas,** and **Utility** (Cooling tower, RO and Boiler) Plant
* During commissioning, responsible for vacuum test and water boiling of distillation columns
* To assist the Engineering team in the design of process elements for assigned projects This includes surveying, detail design, specification, procurement, installation supervision, inspection, commissioning, and documentation
* To supervise subcontractors to ensure compliance with the company’s Health and Safety plan and installation standards
* To develop and implement changes to plant, equipment, and processes that lead to improved reliability and availability
* Complete understanding of piping plans, isometric drawing, and piping installation diagrams
* Responsible for the preparation of BOQ, daily progress, and equipment test reports

***2011-2013 Worked as Assistant Engineer in Faruki Pulp Mills Ltd Gujrat, Pakistan***

**Key Responsibilities:**

* Worked as Assistant Engineer at **Evaporation** (capacity=500tons /day), **RO** (capacity=60m3 /hr), & **Cooling Tower** (capacity=800m3 /hr) plant erection, commissioning & start up activities
* Responsible for monitoring the plant performance (capacity& efficiency) against approved targets daily
* Provide process and operational inputs into the technical safety & operability reviews, training operators, maintenance activities, and performance test runs
* Identify & implement plant modifications to improve the safety, reliability, integrity, efficiency & capacity of the system
* Monitor utility system behavior for adverse trends to allow fast response to potential threats
* Responsible for backwashing of RO plant & regeneration of cation-anion resins in demineralization plant
* Responsible for controlling treated water parameters (TDS, PH, conductivity, chlorides & silica)
* Assist multi-disciplinary teams on operational and maintenance troubleshooting
* Responsible for making daily production reports and shift management too

**Selected Journal Publications:**

1. **Meesam Ali,** Muhammad Tariq, Yong Sun, Jingyao Huang, Xiaogang Gu, Sana Ullah, Muhammad Asif Nawaz, Zhengyuan Zhou, Ali Shan, Muhammad Danish, Shuguang Lyu, Unveiling the catalytic ability of carbonaceous materials in Fenton-like reaction by controlled-release CaO2 nanoparticles for trichloroethylene degradation, **Journal of Hazardous Materials,** 416 (2021) 125935. https://doi.org/10.1016/j.jhazmat.2021.125935
2. **Meesam Ali**, Muhammad Danish, Muhammad Tariq, Ayyaz Ahmad, Khurram Shahzad Ayub, Shuguang Lyu, Mechanistic insights into the degradation of trichloroethylene by controlled release nano calcium peroxide activated by iron species coupled with nano iron sulfide, **Chemical Engineering Journal**, 399 (2020) 125754. <https://doi.org/10.1016/j.cej.2020.125754>
3. **Meesam Ali**, Usman Farooq, Shuguang Lyu, Yong Sun, Ming Li, Ayyaz Ahmad, Ali Shan, Zain Abbas, Synthesis of controlled release calcium peroxide nanoparticles (CR-nCPs): Characterizations, H2O2 liberate performances and pollutant degradation efficiency, **Separation and Purification Technology**, 241 (2020) 116729. <https://doi.org/10.1016/j.seppur.2020.116729>
4. **Meesam Ali**, Xiang Zhang, Ayesha Idrees, Muhammad Tariq, Muhammad Danish, Usman Farooq, Ali Shan, Xihao Jiang, Jingyao Huang, Shuguang Lyu, Advancement in Fenton-like reactions using PVA coated calcium peroxide/FeS system: Pivotal role of sulfide ion in regenerating the Fe(II) ions and improving trichloroethylene degradation, **Journal of Environmental Chemical Engineering**, 9 (2021) 104591. <https://doi.org/10.1016/j.jece.2020.104591>
5. **Meesam Ali**, Ali Shan, Yong Sun, Xiaogang Gu, Shuguang Lyu, Yanbo Zhou, Trichloroethylene degradation by PVA-coated calcium peroxide nanoparticles in Fe(II)-based catalytic systems: Enhanced performance by citric acid and nanoscale iron sulfide, **Environmental Science and Pollution Research**, 28 (2021) 3121-3135. <https://doi.org/10.1007/s11356-020-10678-3>
6. Xuecheng Sun, **Meesam Ali**, Changzheng Cui, Shuguang Lyu, Degradation of BTEX in groundwater by nano-CaO2 particles activated with L-cysteine chelated Fe(III): enhancing or inhibiting hydroxyl radical generation, **Water Supply**, 21 (2021) 4429. https://doi: 10.2166/ws.2021.187
7. Yong Sun, Muhammad Danish, **Meesam Ali**, Ali Shan, Ming Li, Yanchen Lyu, Zhaofu Qiu, Qian Sui, Xueke Zang, Shuguang Lyu, Trichloroethene degradation by nanoscale CaO2 activated with Fe(II)/FeS: The role of FeS and the synergistic activation mechanism of Fe(II)/FeS, **Chemical Engineering Journal**, 394 (2020) 124830. <https://doi.org/10.1016/j.cej.2020.124830>
8. Yong Sun, Xuecheng Sun, **Meesam Ali**, Ali Shan, Ayesha Idrees, Chaoxiang Yang, Shuguang Lyu, Enhanced trichloroethene degradation performance in innovative nanoscale CaO2 coupled with bisulfite system and mechanism investigation, **Separation and Purification Technology**, 278 (2022) 119539. https://doi.org/10.1016/j.seppur.2021.119539
9. Ayesha Idrees, Ali Shan, **Meesam Ali**, Zain Abbas, Tanvir Shahzad, Sabir Hussain, Faisal Mahmood, Usman Farooq, Muhammad Danish, Shuguang Lyu, Highly efficient degradation of trichloroethylene in groundwater based on persulfate activation by polyvinylpyrrolidone functionalized Fe/Cu bimetallic nanoparticles, **Journal of Environmental Chemical Engineering**, (2021) 105341. <https://doi.org/10.1016/j.jece.2021.105341>
10. Xihao Jiang, Shuguang Lyu, **Meesam Ali**, Jingyao Huang, Wenchao jiang, Zhaofu Qiu, Qian Sui, Enhancement of benzene degradation by persulfate oxidation: Synergistic effect by nanoscale zero-valent iron (nZVI) and thermal activation, **Water Science and Technology** (2020) 82 (5): 998-1008. <https://doi.org/10.2166/wst.2020.408>
11. Jingyao Huang, Zhengyuan Zhou, **Meesam Ali**, Xiaogang Gu, Muhammad Danish, Qian Sui, Shuguang Lyu, Degradation of trichloroethene by citric acid chelated Fe(II) catalyzing sodium percarbonate in the environment of sodium dodecyl sulfate aqueous solution, **Chemosphere** 281 (2021) 130798. https://doi.org/10.1016/j.chemosphere.2021.130798
12. Muhammad Tariq, Yiyi Wu, Chenglong Ma, **Meesam Ali**, Waqas Qamar Zaman, Zain Abbas, Khurram Shahzad Ayub, Jiacheg Zhou, Gehui Wang, Li-mei Cao, Ji Yang, Boosted up stability and activity of oxygen vacancy enriched RuO2/MoO3 mixed oxide composite for oxygen evolution reaction, **International Journal of Hydrogen Energy**, 45 (2020) 17287-17298. <https://doi.org/10.1016/j.ijhydene.2020.04.101>
13. Zhengyuan Zhou, Jingyao Huang, Zhiqiang Xu, **Meesam Ali**, Ali Shan, Rongbing Fu, Shuguang Lyu, Mechanism of contaminants degradation in aqueous solution by persulfate in different Fe(II)-based synergistic activation environments: Taking chlorinated organic compounds and benzene series as the targets, **Separation and Purification Technology,** 273 (2021) 118990. <https://doi.org/10.1016/j.seppur.2021.118990>
14. Jingyao Huang, Nan Li, Zhengyuan Zhou, Zhiqiang Xu, **Meesam Ali**, Guilu Zeng, Rumin Yang, Zhikang Zhou, Muhammad Danish, Shuguang Lyu, Comparative studies on trichloroethylene degradation by Fe foam catalyzing three hydrogen peroxide-based oxidants, **Journal of Environmental Chemical Engineering**, 10 (2022) 107335. https://doi.org/10.1016/j.jece.2022.107335
15. Jingyao Huang, Muhammad Danish, Xiaogang Gu, Xihao Jiang, **Meesam Ali**, Ali Shan, Qian Sui, Shuguang Lyu, Mechanism of carbon tetrachloride reduction in Fe(II) activated

percarbonate system in the environment of sodium dodecyl sulfate, **Separation and Purification Technology**, 266 (2021) 118549. <https://doi.org/10.1016/j.seppur.2021.118549>

1. Zhiqiang Xu, Jingyao Huang, Rongbing Fu, Zhengyuan Zhou, **Meesam Ali**, Ali Shan, Ruming Yang, Guilu Zeng, Zhikang Zhou, Ayesha Idrees, Shuguang Lyu, Enhanced trichloroethylene degradation in the presence of surfactant: Pivotal role of Fe(II)/nZVI catalytic synergy in persulfate system, **Separation and Purification Technology**, 272 (2021) 118885. https://doi.org/10.1016/j.seppur.2021.118885
2. Ali Shan, Ayesha Idrees, Waqas Qamar Zaman, Zain Abbas, **Meesam Ali**, Muhammad Saif Ur Rehman, Sabir Hussain, Muhammad Danish, Xiaogang Gu, Shuguang Lyu, Synthesis of nZVI-Ni@BC composite as a stable catalyst to activate persulfate: Trichloroethylene degradation and insight mechanism, **Journal of Environmental Chemical Engineering**, 9 (2021) 104808. <https://doi.org/10.1016/j.jece.2020.104808>
3. Ali Shan, Ayesha Idrees, Waqas Qamar Zaman, Zain Abbas, Usman Farooq, **Meesam Ali**, Rumin Yang, Guilu Zeng, Muhammad Danish, Xiaogang Gu, Shuguang Lyu, Enhancement in reactivity via sulfidation of FeNi@BC for efficient removal of trichloroethylene: Insight mechanism and the role of reactive oxygen species, **Science of the Total Environment**, 794 (2021) 148674. https://doi.org/10.1016/j.scitotenv.2021.148674
4. Yong Sun, Ming Li, Xiaogang Gu, Muhammad Danish, Ali Shan, **Meesam Ali**, Zhaofu Qiu, Qian Sui, Shuguang Lyu, Mechanism of surfactant in trichloroethene degradation in aqueous solution by sodium persulfate activated with chelated-Fe(II), **Journal of Hazardous Materials**, 407 (2021) 124814. <https://doi.org/10.1016/j.jhazmat.2020.124814>
5. Zhengyuan Zhou, Jingyao Huang, Muhammad Danish, Guilu Zeng, Rumin Yang, Xiaogang Gu, **Meesam Ali**, Shuguang Lyu, Insights into enhanced removal of 1,2-dichloroethane by amorphous boron-enhanced Fenton system: Performances and mechanisms, **Journal of Hazardous Materials**, 420 (2021) 126589. <https://doi.org/10.1016/j.jhazmat.2021.126589>
6. Ali Shan, Usman Farooq, Shuguang Lyu, Waqas Qamar Zaman, Zain Abbas, **Meesam Ali**, Ayesha Idrees, Ping Tang, Ming Li, Yong Sun, Qian Sui, Efficient removal of trichloroethylene in surfactant amended solution by nano Fe0-Nickel bimetallic composite activated sodium persulfate process, **Chemical Engineering Journal**, 386 (2020) 123995. https://doi.org/10.1016/j.cej.2019.123995
7. Khurram Shahzad Ayub, Waqas Qamar Zaman, Waheed Miran, **Meesam Ali**, Zain Abbas, Umair Mushtaq, Asif Shahzad, Ji Yang, Efficient post-plasma catalytic degradation of toluene via series of Co–Cu/TiO2 catalysts, **Research on Chemical Intermediates**, (2022). <https://doi.org/10.1007/s11164-022-04805-7>
8. Muhammad Tariq, **Meesam Ali**, Yali Li, Jinli Han, Fandi Ning, Lei He, Min Shen, Chuang Bai, Hanqing Jin, Xiaochun Zhou, Unraveling the facile reproducible modeled approach for bifunctional catalytic decorated polydopamine coated sponge composite for hydrogen generation, **International Journal of Energy Research**, (2022). <https://doi.org/10.1002/er.8660>
9. Mudassir Habib, **Meesam Ali**, Tehreem Ayaz, Ali Shan, Guilu Zeng, Zhengyuan Zhou, Shuguang Lyu, Degradation of trichloroethylene in aqueous solution by FeS2 catalyst under innovative oxic environments, **Environmental Pollution**, 333 (2023) 122062. <https://doi.org/10.1016/j.envpol.2023.122062>
10. Khurram Shahzad Ayub, Zain Abbas, Waqas Qamar Zaman, Shoaib Rauf, Muazzam Arshad, **Meesam Ali**, Waheed Miran,  Umair Mushtaq, Haroon Khalid, Ji Yang, Nonthermal plasma catalysis using ferrites as an efcient catalyst for toluene degradation, **Research on Chemical Intermediates,** (2023) 49:2399–2415. <https://doi.org/10.1007/s11164-023-05010-w>
11. Muhammad Zahid Irfan, Sabih Qamar, Usman Saeed, **Meesam Ali**, Waqas Aleem, Nida Qamar, Arbab Shahid, Zia Ur Rehman, Removal of nickel ions from aqueous solution using treated rice husk: An adsorption study, **Journal of Pakistan Institute of Chemical Engineers**, JPIChE 50 (2) 2023: 77-81. <https://doi.org/10.54693/piche.05027>
12. Mudassir Habib, Tehreem Ayaz, **Meesam Ali**, Zhiqiang Xu, Zhengyuan Zhou, Siraj Ullah, Shuguang Lyu, Persulfate activation via iron sulfide nanoparticles for enhanced trichloroethylene degradation and its applications in groundwater remediation, **Journal of Water Process Engineering**, 58 (2024) 104922. <https://doi.org/10.1016/j.jwpe.2024.104922>
13. Xianxian Sheng, Yulong Liu, **Meesam Ali**, Mudassir Habib, Rongbing Fu, Shuguang Lyu, Application of sulfidated nano zero-valent iron to enhance fluoranthene degradation by Fe(III) activated sodium percarbonate process in aqueous and soil media, **Journal of Environmental Chemical Engineering,** 12 (2024) 113042**.** <https://doi.org/10.1016/j.jece.2024.113042>
14. Mudassir Habib, Tehreem Ayaz, **Meesam Ali**, Muhammad Zeeshan, Xianxian Sheng, Rongbing Fu, Siraj Ullah, Shuguang Lyu, Innovative strategy for the effective utilization of coal waste slag in the Fenton-like process for the degradation of trichloroethylene, **Journal of Environmental Managemen**t 365 (2024) 121441. https://doi.org/10.1016/j.jenvman.2024.121441

**Undergraduate Projects Supervised:**

Production of gasoline from light naphtha. (Session 2012-2016)

150 TPD production of acetone by dehydrogenation of isopropyl alcohol (Session 2013-2017)

50 TPD production of Dichloromethane by HOECHST method (Session 2014-2018)

Production of 36 MTPD toxilic anhydride from n-butane (Session 2019-2023)

**Reference:**

**Professor Shuguang Lyu, Ph.D. supervisor**

School of Resources and Environmental Engineering

East China University of Science and Technology, Shanghai 200237, China.

Email: lvshuguang@ecust.edu.cn

**Dr. Ayyaz Ahmad**

Associate Professor, Chemical Engineering Department, MNS UET Multan, Pakistan

Email: drayyaz.ahmad@mnsuet.edu.pk

Mobile:0333-4550426

**Mr. Zhou Haibo**

Assistant Dean, College of International Education

East China University of Science and Technology, Shanghai 200237, China.

Email: hpzhou@ecust.edu.cn