Department of Chemistry Women University Swabi, Kyber Pakhtunkhwa, Pakistan
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Dr. Rehana Bibi

Educational Profile

Mar 2019 Ph.D. in Chemical Engineering and Technology, Southeast University Nanjing, China under the supervision of Prof. Jiancheng Zhou.

Dec 2014 Master of Philosophy in Fuel Chemistry, Institute of Chemical Sciences, University of Peshawar, Peshawar, Pakistan under the supervision of Prof. Dr. Imtiaz Ahmad.

Mar 2010 Master of Science in Chemistry Institute of Chemical Sciences, University of Peshawar, Peshawar, Pakistan.

Sep 2008 Bachelor of Science, University of Malakand, Pakistan.

Feb 2005 High Secondary School Examination, Malakand Board of Higher Secondary Education, Pakistan.

Feb 2003 Secondary School Examination, Malakand Board of Higher Secondary Education, Pakistan.

Academic & Work Experience

August 2025 to date **Lecturer** Department of chemistry Women University Swabi

June 2022-to June 2025 **Assistant Professor** in the Department of Chemistry, Women University Swabi, Khyber Pakhtunkhwa, Pakistan.

Mar 2022 - June 2022 **IPFP Fellowship** in the Department of Chemistry, Women University Swabi, KPK, Pakistan.

Mar 2016 - Mar 2019 **Research Fellow** in the School of Chemical Engineering and Technology, Southeast University, Nanjing, China.

Additional Responsibilities Current and Previous

Deputy Director Academic &ASARB Women University Swabi

- Ex-Director Academic & ASRB Women University Swabi
- MS thesis supervision.
- Admission Committee departmental In-Charge.
- Ex- Deputy Director Admission WUS.
- Ex- Chief Proctor Women University Swabi
- Ex- English Instructor, School of Foreign Language, Southeast University, Nanjing, China.

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Dr. Rehana Bibi

Research Statement

I am currently working towards the development and application of Metal-Organic Frameworks (MOFs) based composites and 2D nanosheets for photocatalytic CO2 reduction and hydrogen production. I have successfully synthesized MOFs based and derived hybrid composites, which have shown promising results in the field of photocatalysis. These accomplishments have not only contributed to the scientific community but also paved the way for the development of novel catalysts. I am committed to creating sustainable solutions that can address the global challenges of pollution and energy production. I believe that the development of efficient and environmentally friendly catalysts is crucial for the future of our planet.

Technical Interests

- Proficient in laboratory techniques for synthesis and characterization of heterogeneous catalysts.
- Experienced in the synthesis and manipulation of porous materials, including Metal-Organic Frameworks (MOFs).
- Skilled in surface science techniques for analyzing the properties and behavior of catalysts and materials.
- Wastewater treatment processes and the application of advanced materials for efficient treatment.

Technical Languages/Software

UV Visible Spectrophotometer, FTIR, DSC-TGA, Origin Pro, XPS, XRD, SEM,TEM, Zeta Potential etc.

Research Projects

- National Natural Science Foundation of China, Project of Young People's Scientific Foundation, Design and Synthesis of Z- type Photocatalysts Based on the Synergetic Effect of Semiconductor Crystal Planes and Study of Photocatalysis Performance, 200000¥, 2017.1-2019.12.

- Jiangsu Basic Research Program (Natural Science Foundation), Youth Foundation Project, Design, Synthesis and Catalytic Performance of Z-type Photocatalysts Based on Crystal Surface Properties of Semiconductors, 200000 ¥, 2015.7-2018.6.

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Dr. Rehana Bibi

- Jiangsu Key Laboratory of Biomass Energy and Materials, Open Fund, Basic Research on Surface Regulated Synthesis of Tungsten Trioxide Nanocrystals and its Catalytic Cellulose Recycling, 50000 ¥, 2018.1-2019.12.

Communication Skills

English -> Fluent in speaking, reading, and writing

Urdu -> Fluent in speaking, reading and writing

Chinese ->Fluent in speaking, reading and writing

Arabic ->Fluent in reading and writing

Pashto -> Native language

Workshop Organizer/Participate

June 2017 8th International Conference on Environmental Science and Technology (ICEST 2017), Madrid, Spain, June 12-14, 2017. ICESE 2017 is sponsored by the Asia-Pacific Chemical, Biological & Environmental Engineering Society (APCBEES)

May 2023 "Thesis organization and writing for Master Students" by Department of Chemistry, Women University Swabi, KPK, Pakistan.

Fellowships and Scholarships Awarded

Sep 2015 - 2021 Awarded **Ph.D. Scholarship** by the Govt of China CSC program.

Publications

1. **Rehana Bibi**, Naixu Li, Jiancheng Zhou et al. Effect of Amino Functionality on the Uptake of Cationic Dye by Titanium-Based Metal Organic Frameworks. Journal of chemical engineering & data 2017,62,1615-1622.
2. **Rehana Bibi**, Naixu Li and Jiancheng Zhou et al. Hybrid BiOBr/UiO-66-NH 2 composite with enhanced visible-light driven photocatalytic activity toward RhB dye degradation. RSC Advance .2018,8,2048. 3.
3. **Rehana Bibi**, Naixu Li, Jiancheng Zhou et al. Synthesis of Amino functionalized Ti-MOF derived Yolk-Shell and Hollow heterostructures for visible-light driven Photocatalytic H evolution. ACS Sustainable Chem. Eng. 2019, 7, 5, 4868–487. 4.
4. Naixu Li, Hailu Huang, **Rehana Bibi**, Jiancheng Zhou, Maochang Liu, Noblemetal-free MOF derived hollow CdS/TiO2 decorated with NiS cocatalyst for efficient photocatalytic hydrogen evolution. Applied Surface Science, 2019,476, 378-386 5.
5. Dandan Hao,Quanhao Shan, **Rehana Bibi** Integration of CdS particles into sodium alginate aerogel with enhanced photocatalytic performance. International Journal of Biological Macromolecules, DOI: 10.1016/j.ijbiomac.2019.09.064.
6. Quanhao Shen, **Rehana Bibi**, Lingfei Wei, Dandan Hao, Naixu Li, Jiancheng Zhou Well-dispersed CoSx nanoparticles modified tubular sulfur doped carbon nitride for enhanced photocatalytic H2 production activity. International Journal of Hydrogen Energy. 2019, 44, 29,14550-14560.
7. Naixu Li, Xiaoyue Zou, Ming Liu, Lingfei Wei, Quanhao Shen, **Rehana Bibi** and Jiancheng Zhou Enhanced Visible Light Photocatalytic Hydrogenation of CO2 into Methane over Pd/Ce-TiO2 Nano composition. Journal of physical chemistry C. 2017, 121, 25795-25804. 8.
8. Wei Tian, Jun Yin, Lingfei Wei, Quanhao Shen, **Rehana Bibi**, Naixu Li, and Jiancheng Zhou. Hydrothermally prepared nanosized and mesoporous Ce0.4 Zr0.6O2 solid solutions with shape dependence in photocatalysis for the degradation of methylene blue. RSC Advance, 2017, 7, 17020.
9. Naixu Li, Lingfei Wei, **Rehana Bibi**, Jiancheng Zhou et al. Catalytic hydrogenation of alkali lignin into bio-oil using flower-like hierarchical MoS2- based composite catalysts. Fuel,2016,185,532-54.
10. Lingfei Wei, **Rehana Bibi**, Wei Tian, Lingyu Chen, Yu Zheng, Naixu Li and Jiancheng Zhou. Comparative study of WCx-based catalysts for aqueous phase hydrogenolysis of glycerol into bioadditives. New Journal of Chemistry, 2018,42,3633. 11.
11. Lingfei Wei, **Rehana Bibi**, Yu Zheng, Lingyu Chen, Naixu Li and Jiancheng Zhou. Promoting Effect of Boron on the Stability and Activity of Ni/Mo2C Catalyst for Hydrogenation of Alkali Lignin.Catalysis Letter,2018, DOI; 10.1007/s10562-018-2395-3
12. Quanhao Shen, Naixu Li, **Rehana Bibi**, Ngulube Richard, Maochang Liu, Jiancheng Zhou, Dengwei Jing Incorporating nitrogen defects into novel fewlayer carbon nitride nanosheets for enhanced photocatalytic H2 production. Applied Surface Science. 2020, 147104.
13. Quanhao Shen, Lingfei Wei, **Rehana Bibi**, Ke Wang, Dandan Hao, Jiancheng Zhou, Naixu Li, Boosting photocatalytic degradation of tetracycline under visible light over hierarchical carbon nitride microrods with carbon vacancies, Journal of Hazardous Materials, 2021, 125376, https://doi.org/10.1016/j.jhazmat.2021.125376.
14. Synthesis and Characterization of Biogenic Silver Nanoparticles Using Vernonia anthelmintica Extract and Their Biological Activities. Journal: Materials Engineering and Technologies June 2025.

References

1. **Prof. Zhou Jiancheng** in School of Chemistry and Chemical Engineering, Southeast University, Nanjing 210096, China Tel: 0086-13914766900 E-mail: jczhou@seu.edu.cn
2. **Prof. Naixu Li** in School of Chemistry and Chemical Engineering, Southeast University, Nanjing 211189, P.R. China naixuli@seu.edu.cn. Tel: +86 025 52090621. Fax: +86 025 52090620.