

WASEEM ABBAS

Assistant Professor, Institute of Physics (IoP), Bahauddin Zakariya University (BZU), Multan Pakistan

Ph.D. Materials Science & Engineering

(School of Materials Science and Engineering, Shanghai Jiao Tong University, Shanghai, China)

Address:

Institute of Physics (IoP)

Bahauddin Zakariya University (BZU), Multan Pakistan

Phone: (+92) 3039401094 (Whatsapp)

Email address:

Dr.waseemabbas@bzu.edu.pk

Wabbas763@gmail.com

Google Scholar Link:
https://scholar.google.com/citations?user=-BtaLpwAAAAJ

ResearchGate Link:
https://www.researchgate.net/profile/Waseem-Abbas-20

LinkedIn: Address:
https://www.linkedin.com/in/dr-waseem-abbas-a1018688/

Profile

My research focuses on advanced functional nanomaterials—including MXenes, MOFs, carbon materials, transition-metal oxides/sulfides, and 2D materials—for energy storage, electrochemical sensing, and electrocatalysis, with increasing emphasis on machine learning-assisted materials design, performance prediction, and optimization. I hold a Ph.D. in Materials Science from Shanghai Jiao Tong University and have published 60+ peer-reviewed articles, secured research funding, and supervised Ph.D. and Master's students.

Education

- Ph.D. in Materials Science —School of Material Science and Engineering, Shanghai Jiao Tong University (SJTU), China (2019)
- Thesis Title (Ph. D.) "Alginate-Derived One-Step Synthesis of Carbon-Coated Metal Nanoparticles for Electrochemical Sensing Applications"
- M.Phil. in Physics (18 years Education)— IoP, BZU, Multan. Pakistan (2013)
- B.Ed. in Education — Islamia University, Bahawalpur, Pakistan (2010)
- B.S. in Physics — IoP, BZU, Multan. Pakistan (2007)

Experience

- Assistant Professor — IoP, BZU, Multan. (2022- Present)
- Teaching graduate and postgraduate courses in Materials Science and Physics.
- Supervising PhD and Master research projects.
- Conducting research on MXene, MOFs, and perovskite nanocomposites for energy storage applications.
- Managing funded projects and collaborating with national research centers.

Awards

- Research Grant Award (2024): "Enhancing Supercapacitor Performance with Metal Sulfide/MXene Nano-hybrid Electrode Materials" – Office of Research Innovation & Communication (ORIC), BZU, Multan.
- Excellent International Student Award (2018): SJTU, China.
- SJTU International Scholarship (2015): Full Ph.D. Scholarship.

Professional & Academic Services

- Assistant Internal Controller Examination IoP, BZU
- Joint Secretary, Zakariyan Alumni Association of Physicists (ZAAP)
- Member, Board of Studies, Departmental Doctoral Program Committee (DRRC). Departmental Review and Research Committee (DDPC) (University of Okara & The Women University Multan)
- Peer Reviewer: Journal of Alloys and Compounds; Journal of Power Sources; Materials Chemistry and Physics; Solar Energy; Sensors International; and other international journals.
- Participated as Invited Speaker;
    1. 4th International Conference on "Recent Trends in Natural Science 2025-Hybrid (RTNS-2025), on April 22-23, 2025, Organized by the University of Education, Lahore Jauharabad Campus, Jauharabad, Pakistan
    2. 4th International Conference on "Recent Trends in Natural Science 2025-Hybrid (RTNS-2025), on April 22-23, 2025, Organized by the University of Education, Lahore Jauharabad Campus, Jauharabad, Pakistan
    3. 1st International Conference on Advanced Nanomaterials, October 02-04, 2023, at the University of Okara, Pakistan
    4. Special Session Organizer at 2023 IEEE International Conference on Manipulation, Manufacturing, and Measurement on the Nanoscale 31 July-4 August 2023

Research Supervision

Category	Count
PhD Completed	01
PhD In Progress	03
MS/MPhil Completed	33

Research Achievements

Research Metrics	Count
Total Publications	61
Cumulative Journal Impact Factor	240.9
Total Citations (September, 2026)	3003
H-index	21
i10-index	34
First Author Papers	06
Co-author Papers	55
Q1 Journals	17
Q2 Journals	16
Q3 & Q4 Journals	15

List of Selected Publications

❖ Selected publications are listed below. The complete list of 60+ peer-reviewed publications is available through Google Scholar: https://scholar.google.com/citations?user=-BtaLpwAAAAJ

1. Waseem Abbas et al., Machine learning trained poly (3,4-ethylenedioxythiophene) functionalized carbon matrix suspended Cu nanoparticles for precise monitoring of nitrite from pickled vegetables, Food Chemistry, 460, Part 1, 2024,140395.

https://doi.org/10.1016/j.foodchem.2024.140395
2. Waseem Abbas et al., “Synergistic CuCo2O4/MWCNT nanocomposites: advanced electrode materials for energy storage and catalysis applications." Journal of Materials Science: Materials in Engineering 20, no. 1 (2025): 96. https://doi.org/10.1186/s40712-025-00313-9
3. Waseem Abbas et al., “Facilely green synthesis of 3D nano-pyramids Cu/Carbon hybrid sensor electrode materials for simultaneous monitoring of phenolic compounds”, Sensors and Actuators B: Chemical, 282(2019) 617-25. https://doi.org/10.1016/j.snb.2018.11.114
4. Waseem Abbas et al., “Electrochemical Determination of urinary dopamine from neuroblastoma patients based on Cu nanoplates encapsulated by alginate-derived carbon”, Journal of Electroanalytical Chemistry, 853(2019) 113560. https://doi.org/10.1016/j.jelechem.2019.113560
5. Waseem Abbas et al., “Study of the Electrical Properties and Electrochemical Sensing Efficiency of Hydrothermally Synthesized Sr Doped Nickel Oxide Nanomaterials” Physica Scripta 97(2022), 075004. https://doi.org/10.1088/1402-4896/ac74ed
6. Waseem Abbas et al., “Structural and magnetic behavior of Pr-substituted M-type hexagonal ferrites synthesized by sol–gel autocombustion for a variety of applications”, Journal of Magnetism and Magnetic Materials, 374(2015) 187-191. https://doi.org/10.1016/j.jmmm.2014.08.029
7. Li, T., Yao, L., Liu, Q., Gu, J., Luo, R., Li, J., ... & Zhang, D. (2018). Fluorine-free synthesis of high-purity Ti3C2Tx (T= OH, O) via alkali treatment. Angewandte Chemie, 130(21), 6223-6227. https://doi.org/10.1002/ange.201800887
8. Naz, R., Imtiaz, M., Liu, Q., Yao, L., Abbas, W., Li, T., ... & Gu, J. (2019). Highly defective 1T-MoS2 nanosheets on 3D reduced graphene oxide networks for supercapacitors. Carbon, 152, 697-703. https://doi.org/10.1016/j.carbon.2019.06.009
9. Naz, R., Abbas, W., Liu, Q., Shafi, S., Gull, S., Khan, S., ... & Gu, J. (2023). Covalent functionalization of electrochemically exfoliated 1T-MoS2 nanosheets for high-performance supercapacitor electrode. Journal of Alloys and Compounds, 951, 169944. https://doi.org/10.1016/j.jallcom.2023.169944
10. Jing-Song Lv, Cong Lei, Waseem Abbas, Changlin Dong,…, Peanut shell-derived activated carbon incorporated with ZnCo2O4 in alkaline solution for high performance asymmetric supercapacitors, RSC Adv. (2026) https://doi.org/10.1039/d6ra04675d
11. Shah, M.U.M., .Shakoor, A., Abbas, W., Hashim, M., Bilal, M., Mazhar, M. E., Atiq, S., ... & Ahmad, F. (2026). Hierarchical ZnS/MXene microspheres as efficient electrodes for energy storage devices. Materials Chemistry and Physics, 132108. https://doi.org/10.1016/j.matchemphys.2026.132108