

MARYAM BATOOL



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<https://scholar.google.com/citations?user=LZ4deYQAAAAJ&hl=en>



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<https://www.webofscience.com/wos/author/record/HJA-3042-2022>



<https://www.scopus.com/authid/detail.uri?authorId=57224349726>



<https://www.youtube.com/@youngresearchers>

OBJECTIVE

Aspiring to pursue a challenging and research-intensive PhD program to further expand my knowledge, develop my research skills, and contribute to global advancements.

PERSONAL INFORMATION

- Gender Female
- Date of Birth 06-09-1998
- Nationality Pakistani
- Correspondence Address University of Sahiwal, Sahiwal, Pakistan

RESEARCH INTERESTS

- Wastewater treatment
- Batch and column adsorption
- Statistical analysis
- Characterization analysis techniques
- Studies and analysis of various pollutants in water
- Dyes, metals, turbidity, pathogens (*E. coli*) in drinking water
- Environment friendly modified biosorbents/ catalysts
- Photocatalysis/ composites for treatment of wastewaters
- Biomaterials and their applications in various fields

EDUCATION

- **2021-2023**
Master of Philosophy in Chemistry, M.Phil./MS
University of Sahiwal, Sahiwal, Pakistan.
Thesis Title:
“Efficient Photocatalytic Degradation of Crystal Violet Dye Using UV Light and ZnO – Bi₂O₃”
- **2016-2020**

Bachelor of Science in Chemistry, BS (Hons)

University of Sahiwal, Sahiwal, Pakistan.

Thesis Title:

“Exploring the Useability of *Cedrus deodara* Sawdust for Decontamination of Wastewater Containing Crystal Violet Dye”

PUBLISHED RESEARCH ARTICLES

- i. **Maryam Batool**, Tariq Javed, Muhammad Wasim, Shagufta Zafar, Muhammad Imran Din. “**The usability of *Cedrus deodara* sawdust for decontamination of wastewater containing crystal violet dye**” (Desalination and Water Treatment), 2021, **IF (1.0)** DOI: <https://doi.org/10.5004/dwt.2021.27192>
- ii. **Maryam Batool**, Muhammad Nouman Haider, Tariq Javed. “**Applications of spectroscopic techniques for characterization of polymer nanocomposite: A review**” (Journal of Inorganic and Organometallic Polymers and Materials), 2022, **IF (3.9)** DOI: <https://doi.org/10.1007/s10904-022-02461-3>
- iii. **Maryam Batool**, Muhammad Amin Abid, Tariq Javed, Muhammad Nouman Haider. “**Applications of biodegradable polymers and ceramics for bone regeneration: a mini-review**” (International Journal of Polymeric Materials and Polymeric Biomaterials), 2024, **IF (2.6)** DOI: <https://doi.org/10.1080/00914037.2024.2314601>
- iv. Qudsia Ghzal, Tariq Javed, **Maryam Batool**. “**Potential of easily prepared low-cost rice husk biochar and burnt clay composite for the removal of methylene blue dye from contaminated water**” (Environmental Science: Water Research & Technology), 2023, **IF (3.5)** DOI: <https://doi.org/10.1039/D3EW00392B>
- v. Ahsan Shah, Julia Zakharova, **Maryam Batool**, Matthew P Coley, Arun Arjunan, Alisha J Hawkins, Timothy Bolarinwa, Shreah Devi, Anusha Thumma, Craig Williams. “**Removal of cadmium and zinc from water using Sewage sludge-derived biochar**” (Sustainable Chemistry for the Environment), 2024, **IF (N/A)** DOI: <https://doi.org/10.1016/j.scenv.2024.100118>
- vi. Ahsan Shah, Georgina Manning, Julia Zakharova, Arun Arjunan, **Maryam Batool**, Alisha J Hawkins, Ioanna Androulaki. “**Particle size effect of *Moringa oleifera* Lam. seeds on the turbidity removal and antibacterial activity for drinking water treatment**” (Environmental Chemistry and Ecotoxicology), 2024, **IF (9.0)** DOI: <https://doi.org/10.1016/j.enceco.2024.07.008>
- vii. Ahsan Shah, Arun Arjunan, Georgina Manning, Julia Zakharova, Ioanna Androulaki, **Maryam Batool**. “**The effect of dose, settling time, shelf life, storage temperature and extractant on *Moringa oleifera* Lam. protein coagulation efficiency**” (Environmental Nanotechnology, Monitoring & Management), 2024, **IF (N/A)** DOI: <https://doi.org/10.1016/j.enmm.2024.100919>
- viii. Hafiz Abdul Mannan, Raziya Nadeem, Shamsa Bibi, Tariq Javed, Iram Javed, Arif Nazir, Mehr-un-Nisa, **Maryam Batool**, Muhammad Idrees Jilani. “**Mesoporous activated TiO₂/based biochar synthesized from fish scales as a proficient adsorbent for deracination of heavy metals from industrial efflux**” (Journal of Dispersion Science and Technology), 2024, **IF (2.2)** DOI: <https://doi.org/10.1080/01932691.2022.2151456>
- ix. Muhammad Nouman Haider, **Maryam Batool**, Tariq Javed. “**Biodegradable Magnesium Metal for Bone Regeneration: Mini Review**” (International Journal of Medical Reviews), 2022, **IF (N/A)** DOI: <https://doi.org/10.30491/IJMR.2021.280677.1200>
- x. Ahsan Shah, Arun Arjunan, Anusha Thumma, Julia Zakharova, Timothy Bolarinwa, Shreah Devi, **Maryam Batool**. “**Adsorptive removal of arsenic from drinking water using**

KOH-modified sewage sludge-derived biochar” (Cleaner Water), 2024, **IF (N/A)** DOI: <https://doi.org/10.1016/j.clwat.2024.100022>

- xi. Tariq Javed, Anusha Thumma, Abdullah Nur Uddin, Rubbai Akhter, Muhammad Babar Taj, Shagufta Zafar, Mirza Mahmood Baig, Syed Shoab Ahmad Shah, Muhammad Wasim, Muhammad Amin Abid, Tariq Masood, Muhammad Idrees Jilani, **Maryam Batool**, **“Batch adsorption study of Congo Red dye using unmodified *Azadirachta indica* leaves: isotherms and kinetics”** (Water Practice & Technology), 2024, **IF (1.6)** DOI: <https://doi.org/10.2166/wpt.2024.020>
- xii. Ahsan Shah, Arun Arjunan, Georgina Manning, **Maryam Batool**, Julia Zakharova, Alisha J. Hawkins, Fatima Ajani, Ioanna Androulaki, Anusha Thumma. **Sequential novel use of *Moringa oleifera* Lam., biochar, and sand to remove turbidity, *E. coli*, and heavy metals from drinking water.** (Cleaner Water), 2024, **IF (N/A)** DOI: <https://doi.org/10.1016/j.clwat.2024.100050>
- xiii. Hayder Jihad Majeed, Thulfiqar Jasim Idrees, Makarim A. Mahdi, May Jaleel Abed , **Maryam Batool**, Seyede Raheleh Yousefi, Anusha Thumma, Layth S. Jasim. **Synthesis of novel sodium carboxy methyl cellulose-g-poly acrylic acid carbon dots hydrogel nanocomposite (NaCMC-g-PAAC/ CDs) for adsorptive removal of malachite green dye.** (Desalination and Water Treatment), 2024, **IF (1.0)** DOI: <https://doi.org/10.1016/j.dwt.2024.100822>
- xiv. Kelthoum Saadallah, Chifaa AD, Mebrouk Djedid, **Maryam Batool**, Mokhtar Benalia, Soror Saadallah, Smail Hamamda. **Potential of the Algerian pine tree bark for the adsorptive removal of methylene blue dye: Kinetics, isotherm and mechanism study.** (Journal of Dispersion Science and Technology), 2024, **IF (1.9)** DOI: <https://doi.org/10.1080/01932691.2024.2425957>
- xv. Alzayd Asawer A. Mhammed, Amna N. Zghair, Ali M. Essa, Ahmed Salim jawad, May Jaleel Abed, **Maryam Batool**, Layth S. Jasim. **Isotherm and Thermodynamic Analysis of Azur C Dye Adsorption on GO/P(CMC-Co-Am) Nanocomposite.** (Journal of Nanostructure), 2024, **IF (1.4)** DOI: [10.22052/JNS.2024.03.015](https://doi.org/10.22052/JNS.2024.03.015)
- xvi. Faiqa Kanwal, Tariq Javed, Fayyaz Hussain, Muhammad Wasim, **Maryam Batool**, **Enhanced dye photodegradation through ZnO and ZnO-based photocatalysts doped with selective transition metals: A review.** (Environmental Technology Reviews), 2024, **IF (N/A)** DOI: <https://doi.org/10.1080/21622515.2024.2426725>
- xvii. Qusay K. Mojar Alshamusi, Khitam Abdul Ameer Hameed, Ali M. Taher, **Maryam Batool**, Layth sameer Jasim. **Efficiency of Chitosan-Grafted Poly (Carboxymethyl Cellulose-Co-Acrylamide) Nano Hydrogel for Cadmium (II) Removal: Batch Adsorption Study.** (Journal of Nanostructure), 2024, **IF (1.4)** DOI: [10.22052/JNS.2024.04.013](https://doi.org/10.22052/JNS.2024.04.013)
- xviii. Zaid Hamzah Abdulhusain, Layth Sameer Jasim, **Maryam Batool** (2024). **Azur C Dye Removal using GO/P(CMC-Co-Am) Nano-composite: Adsorption and Kinetic Studies.** (Journal of Nanostructure), 2024, **IF (1.4)** DOI: [10.22052/JNS.2024.04.022](https://doi.org/10.22052/JNS.2024.04.022)
- xix. Ali Taher, Layth Sameer Jasim, Zahid Mehmood, Muhammad Danish Zawar, Muhammad Nouman Haider, **Maryam Batool** (2024). **Applications of nano composites for heavy metal removal from water by adsorption: Mini review.** (Journal of Nanostructure), 2024, **IF (1.4)** DOI: [10.22052/JNS.2024.04.023](https://doi.org/10.22052/JNS.2024.04.023)
- xx. Hussein Abdelamir Mohammad, Basam W. Mahde, Layth Sameer Jasim, **Maryam Batool** (2024). **Adsorption of Diclofenac Sodium (DS) Drug from Water on CMC-g-P(AAC-AAm) Nano-Hydrogel: Isotherm and Thermodynamic Study.** (Journal of Nanostructure), 2024, **IF (1.4)** DOI: [10.22052/JNS.2024.01.024](https://doi.org/10.22052/JNS.2024.01.024)
- xxi. Hayder O. Jamel, Maryam H. Jasim, Makarim A. Mahdi, Safaa H. Ganduh, **Maryam Batool**, Layth S. Jasim, Muhammad Nouman Haider (2024). **Adsorption of Rhodamin B dye from solution using 3-((1-(4-((1H-benzo[d]imidazol-2-yl) amino) phenyl)**

- ethylidene) amino) phenol (BIAPEHB)/ P(AA-co-AM) composite.** (Desalination and Water Treatment), 2025, **IF (1.0)** DOI: <https://doi.org/10.1016/j.dwt.2025.101019>
- xxii. Muhammad Zeeshan, Tariq Javed, Chandresh Kumari, Anusha Thumma, Muhammad Wasim, Muhammad Babar Taj, Ishu Sharma, Muhammad Nouman Haider, **Maryam Batool**. **Investigating the Interactions between Dyes and Porous/Composite Materials: A Comprehensive Study.** (Sustainable Chemistry for the Environment), 2025, **IF (N/A)** DOI: <https://doi.org/10.1016/j.scenv.2025.100217>
- xxiii. Amna N. Zghair, Ziyad T. Al-Khateeb, Layth S. Jasim, **Maryam Batool** (2025). **Synthesis, characterization and adsorption properties of azo-functionalized polymeric hydrogels for R6G dye removal from water.** (Applied Chemical Engineering), 2025, **IF (0.19)** DOI: <https://doi.org/10.59429/ace.v8i1.5604>
- xxiv. Malaika Naveed, Tariq Javed, Muhammad Danish Zawar, Uswa Shafqat, Muhammad Babar Taj, Muhammad Wasim, **Maryam Batool**. **Comprehensive Review on Applications of Heavy Metal-Based Nanoparticles in Cosmetics.** Cutaneous and Ocular Toxicology, 2025, **IF (1.6)** DOI: <https://doi.org/10.1080/15569527.2025.2472156>

SUBMITTED RESEARCH ARTICLES

1. Shahad M. Qasim, Rawaa Ch. Hasan, Asawer A. Alzayd, **Maryam Batool**, Layth S. Jasim. (2024). **Adsorptive Removal of Malachite Green Dye from Water Using Novel Clay Based Superabsorbent Composite Hydrogel.** Process Safety and Environmental Protection (under review with ID: PSEP-D-24-08090).
2. Farah A. Jabbar, Khitam Abdul Ameer Hameed, Ziyad T. Al-Khateeb, **Maryam Batool**, Layth S. Jasim (2024). **Investigating the efficiency of superabsorbent MMT clay-based hydrogel composite to adsorb malachite green dye from water: Isotherm and kinetic study.** Process Safety and Environmental Protection (under review with ID: PSEP-D-24-08089).
3. Qusay K. Mojar Alshamusi, Makarim A. Mahdi, Layth Sameer Jasim, **Maryam Batool** (2024). **Removal of Cr (III) ions using copolymer of acrylic acid and acrylamide combined with hexamethylenetetramine diborane (poly (AA-co-AM)/ HMTDAB) nanocomposite: Batch adsorption study.** (Journal of Nanostructure), 2024, **IF (1.4)** (under review ID: JNS-2501-3584).
4. Tariq Javed, Nasir Khalid, Saad Fiaz, **Maryam Batool** (2025). **Low-rank Pakistani coal's (LRPC) adsorption capacity for removal of Lanthanum (La³⁺) ions from aqueous solution.** (Physical Chemistry Research), **IF (1.4)** (Under review ID: PCR-2501-2637).
5. Sehrish Fatima, Tariq Javed, Muhammad Babar Taj, Fayyaz Hussain, Chandresh Kumari, Anusha Thumma, **Maryam Batool** (2025). **Comprehensive Review on Graphene Quantum Dots: Synthesis Approaches, Surface Modification and Applications.** (Sustainable Chemistry and Pharmacy), **IF (5.5)** (Under review ID: SUSCP-D-25-00446).

CONFERENCES PAPER ACCEPTED

1. Sahib Ibrahim, Ali Salim Shemran, Duha Majid Eidan, **Maryam Batool**, Layth S. Jasim, Zaman Abdalhussein Ibadi Alaridhee. Adsorption of Cd (II) ions on P(CMC-Co-Am) Hydrogel: Isothermal and Thermodynamic Study. Accepted for publication at the Sixth International Scientific Conference of Alkafeel University (ISCKU 2025).

SCIENTIFIC REVIEWER

1. International Journal of Polymeric Materials and Polymeric Biomaterials
2. International Journal of Environmental Science and Development

3. Journal of Inorganic and Organometallic Polymers and Materials
4. Journal of the Turkish Chemical Society Section A: Chemistry
5. International Journal of Environmental Analytical Chemistry
6. European Journal of Sustainable Development Research
7. Environmental Science: Water Research & Technology
8. Critical Reviews in Solid State and Materials Sciences
9. Carbohydrate Polymer Technologies and Applications
10. Environmental Engineering and Management Journal
11. American Journal of Medicine and Medical Sciences
12. International Journal of Biological Macromolecules
13. Turkish Computational and Theoretical Chemistry
14. AI, Computer Science and Robotics Technology
15. Nigerian Journal of Technological Development
16. Journal of Dispersion Science and Technology
17. Process Safety and Environmental Protection
18. Green Energy and Environmental Technology
19. Annual International Congress on Chemistry
20. Bulletin of the Chemical Society of Ethiopia
21. International journal of polymeric materials
22. Advanced Journal of Chemistry, Section A
23. Polymer-plastics technology and materials
24. Sustainable Chemistry for the Environment
25. Journal of Polymers and the Environment
26. Iranica Journal of Energy & Environment
27. Environmental Research and Technology
28. University of Thi-Qar Journal of Science
29. Chemical Science International Journal
30. American Journal of Materials Science
31. Tikrit Journal of Engineering Sciences
32. Journal of Water Process Engineering
33. Journal of Environmental Engineering
34. American Journal of Polymer Science
35. Biomass Conversion and Biorefinery
36. The Malaysian Journal of Chemistry
37. Cutaneous and Ocular Toxicology
38. Uttar Pardesh Journal of Zoology
39. Asian Journal of Green Chemistry
40. Indonesian Journal of Chemistry
41. Journal of Structural Chemistry
42. Water Science and Technology

43. Applied Chemical Engineering
44. Journal of Polymer Materials
45. Journal of Chemical Reviews
46. Physical Chemistry Research
47. Current Organic Chemistry
48. EquinOCS springer system
49. Environmental Research
50. Scientific Reports
51. Chemistry Africa
52. BP International
53. Discover Water
54. Discover Soil
55. ACS omega
56. Langmuir

EDITORIAL MEMBER

1. Journal of Medical, Chemical and Biomedical Engineering
2. Applied Chemical Engineering

SCIENTIFIC COMMITTEE MEMBER

1. Annual International Congress on Chemistry

CERTIFIED TRAINING COURSES

1. Certified peer reviewer, Elsevier, 2024
2. Certified peer reviewer, Wiley, 2023 & 2024
3. Certified peer reviewer, ACS Reviewer Lab, 2024
4. Certified peer reviewer, Nature Masterclasses, 2025
5. Certified peer reviewer, IOP Peer Review Excellence, 2024
6. Certified training on Combatting multidrug-resistant bacterial infections, Drug Discovery News (DDN), 2024
7. Certified participation in Seminar on Chinese Economic Development Model and CPEC, Virtual University (VU), 2021
8. Certificate of Expertise, for completing coursework covering Chemistry 101 Summer Bootcamp proving their mastery of the subject, Numerade, 2021
9. Certified course on "Mangroves Biodiversity & Ecosystem Course on the Water Learning Center (WLC)", offered by the United Nations University Institute for Water, Environment and Health (UNU-INWEH), 2025
10. Certified course on "Synergizing Disaster Risk Reduction and Climate Change Adaptation-Thought Leadership Course" offered by the United Nations System Staff College (UNSSC) and the UN Office for Disaster Risk Reduction (UNDRR), 2025

CONFERENCE PRESENTATIONS

1. Successfully presented presentation entitled "The usability of *Cedrus deodara* sawdust for decontamination of wastewater containing crystal violet dye" at The Office of Research,

- Innovation and Commercialization (ORIC) of University of Sahiwal (2020).
2. Successfully presented presentation entitled “Sequential novel use of *Moringa oleifera* Lam., biochar, and sand to remove turbidity, *E. coli*, and heavy metals from drinking water” at Annual International Congress on Chemistry, Oxford, United Kingdom / Online (28 March, 2025).

AWARDS AND DISTINCTIONS

- Got talented award in Metric.
- Awarded with solar panel and laptop in intermediate.
- Got first position (Gold medal) in BS Chemistry session 2016-2020 at University of Sahiwal, Sahiwal.
- Awarded with merit and PEEF scholarship throughout the academic career.
- Professional Diploma in Regulatory Affairs of Drugs & Medical Devices. Radex Education, USA.
- Drug Discovery News: Combating multidrug-resistant bacterial infections Certificate of Attending Webinar.
- Collaboration with Professor Dr. Arun Arjunan, Director, Centre for Engineering Innovation and Research (CEIR), Elite Center for Manufacturing Skills (ECMS), School of Engineering, Computing and Mathematical Sciences, Faculty of Science and Engineering, University of Wolverhampton. United Kingdom (UK).
- Collaboration with Dr. Tariq Javed, Department of Chemistry, University of Sahiwal, Sahiwal, Pakistan.
- Collaboration with Professor Dr. Layth Jasim Sameer Al-Hayder, Department of Chemistry, Al-Qadisiyah University, Iraq.

EXPERIENCE

- Worked as **Research Assistant (RA)** of my Master’s Supervisor **Dr. Tariq Javed** at the University of Sahiwal, Sahiwal, Pakistan, contributing to research and academic activities.

EXPERTISE AND SKILL SET

- EndNote X9, X20
- Mendeley
- Origin
- HighScore Plus
- ChemDraw
- Icore Pro 6.12
- MS Office

LANGUAGES SKILLS

- English
- Urdu

REFERENCES

1. Dr. Muhammad Amin Abid
Chairperson & Associate Professor
Department of Chemistry, University of Sahiwal, Sahiwal
E-mail: mabid@uosahiwal.edu.pk

2. Dr. Tariq Javed (among top 2% scientists of the world in 2024)

Lecturer

Department of Chemistry, University of Sahiwal, Sahiwal

Email: mtariq@uosahiwal.edu.pk

3. Dr. Arun Arjunan (among top 2% scientists of the world in 2023)

Director

Centre for Engineering Innovation and Research (CEIR)

Elite Center for Manufacturing Skills (ECMS)

School of Engineering, Computing and Mathematical Sciences | Faculty of Science and Engineering, University of Wolverhampton

Email: A.Arjunan@wlv.ac.uk

4. Dr. Layth Jasim Sameer Al-Hayder

Professor

Department of Chemistry, Al-Qadisiyah University, Iraq

E-mail: layth.alhayder@qu.edu.iq