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Research Gate [\(link\)](#), *Google Scholar* [\(link\)](#)

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RESEARCH INTEREST

Solid Phase Extraction / Wastewater treatment / Green Materials & Composite / Fabricating Bio-composites / Cellulose and its derivatives / Nano lignin / Nano Biocomposites / Microcrystalline cellulose / Hydrogels / Graphene and derivatives / Sciences and Technologies / Supercritical carbon dioxide Technology

ACADEMIC QUALIFICATION

Ph.D., School of Industrial Technology, Universiti Sains Malaysia, Malaysia, 2019

Master of Philosophy, Institute of Chemical Sciences, University of Peshawar, Pakistan, 2014

Master of Science, Institute of Chemical Sciences, University of Peshawar, Pakistan, 2008

HONORS AND AWARDS

- Best research publication award (Sanggar Sanjung) in Universiti Sains Malaysia (2020)
- Best research publication award (Sanggar Sanjung) in Universiti Sains Malaysia (2019).
- Best research publication award (Sanggar Sanjung) in Universiti Sains Malaysia (2019).
- Malaysian International Scholarship award (2015), Ministry of Education, Malaysia.

PUBLICATIONS (Citations=974)

1. U Maheer, MM Badsha, FNJ Abedin, V Balakrishnan, **S Sohni**, M Zulkifli, Biodiesel production from discarded fish waste lipids using CaO-based heterogeneous catalyst: kinetics modeling, process optimization and validation using Artificial neural network, ***Biomass and Bioenergy*** 211, 109183.
2. F Mazhar, EM Bakhsh, SB Khan, N Ullah, M Khan, M Muneeb, M Sayed, Hafiz Nidaullah, **S. Sohni** Bifunctional performance of robust filter material based on biomimetically synthesized CeO₂/ZnO and nanolignin supported on microcrystalline cellulose for water reclamation, ***International Journal of Biological Macromolecules***, (2025), 145964.
3. **S. Sohni**, Abdullah, Esraa M Bakhsh, Faryal Mazhar, Waqas Ahmad, Junidah Lamaming, Arshad Iqbal, Hafiz Nidaullah, Murtaza Sayed, Sher Bahadar Khan Evaluating catalytic and antibacterial properties of composite hydrogel based on biomimetically synthesized CeO₂ nanoparticles anchored onto microcrystalline cellulose/reduced graphene oxide, ***International Journal of Biological Macromolecules*** 306, (2025), 141749.
4. A Shahnaz, S Gul, Q Khan, F Rehman, **S Sohni**, K Naz, M Kamal, Fabrication of Zinc Oxide/Reduced Graphene Oxide Nanocomposites (ZnO/rGO) for Efficient Photoactivation of Peroxymonosulfate: A Case Study on Degradation of Methyl Orange, ***ChemistrySelect*** 10 (2025), e0288.
5. Z Shah, A Iqbal, SL Badshah, MA Mir, S Sohni, H Ullah, SA Shah, Macroalgae Polysaccharides Enhance Brain Health by Mitigating Scopolamine-induced Oxidative Stress and Inflammation Via Nrf-2/TLR4/NF-κB Pathways, ***Journal of Neuroimmune Pharmacology*** 20 (2025), 1-20.

6. **S Sohni**, O Rashid, SH Ali, SB Khan, K Akhtar, F Mazhar, MS Hossain, Magnetically separable sorbent based on activated carbon derived from a new precursor *Rhizoclonium hookeri* for facile oil spill clean-up, **Algal Research** 84 (2024), 103762.
7. R Khan, Z Haram, W Ahmad, **S Sohni**, J Xu, M Ilyas, Removal of hydrocarbon pollutants from refinery wastewater using N-hexadecylchitosan as an efficient adsorptive platform, **Scientific Reports** 14 (2024), 17236.
8. AA Sher, A Iqbal, M Adil, Z Shah, ZA Butt, S Ullah, M Nafees, S Sohni, Phytochemical profile and pharmacological potential of *Withania somnifera* whole plant extracts, **Biomedical Chromatography** 38 (2024), e5968.
9. M Imran, A Iqbal, AA AL-Huqail, SMS Alghanem, SL Badshah, **S. Sohni**, Biochemical and nutritional analysis of seaweed (*Iyengaria stellata*) and its therapeutic significance, using antioxidant, antimicrobial, and hypoglycemic activities, **South African Journal of Botany** 171 (2024), 695-709
10. M Zohaib, M Sayed, F Rehman, S Gul, S Noreen, **S. Sohni**, I Gul, A Ali, Superior activation of peroxymonosulfate by highly stable and long lasting zero-valent iron incorporated cellulose acetate membrane for the catalytic degradation of textile dye from aqueous media, **Catalysis Surveys from Asia**, 1-15 (2024).
11. K Zahid, B Ara, K Gul, S Malik, TUH Zia, **S. Sohni**, Adsorption and visible light driven photocatalytic degradation of Malachite Green and Methylene Blue dye in wastewater using magnetized copper metal organic framework, **Zeitschrift für Physikalische Chemie**, (2024).
12. **S. Sohni**, S Begum, R Hashim, SB Khan, F Mazhar, F Syed, SA Khan, Physicochemical characterization of microcrystalline cellulose derived from underutilized orange peel waste as a sustainable resource under biorefinery concept, **Bioresource Technology Reports** 25 (2024), 101731.
13. Q Khan, M Sayed, JA Khan, F Rehman, S Noreen, **S. Sohni**, I Gul, Advanced oxidation/reduction processes (AO/RPs) for wastewater treatment, current challenges, and future perspectives: a review, **Environmental Science and Pollution Research** 31 (2024), 1863-1889.
14. A Javed, M Islam, YO Al-Ghamdi, M Iqbal, M Aljohani, **S. Sohni**, SSA Shah, Synthesis of oxidized carboxymethyl cellulose-chitosan and its composite films with SiC and SiC@ SiO₂ nanoparticles for methylene blue dye adsorption, **International Journal of Biological Macromolecules**, 256 (2024), 128363.
15. **S. Sohni**, K Gul, JA Shah, A Iqbal, M Sayed, SB Khan, Immobilization performance of graphene oxide-based engineered biochar derived from peanut shell towards cationic and anionic dyes, **Industrial Crops and Products** 206 (2023), 117656.
16. **S. Sohni**, T Hassan, SB Khan, K Akhtar, EM Bakhsh, R Hashim, Lignin nanoparticles-reduced graphene oxide based hydrogel: A novel strategy for environmental applications, **International journal of biological macromolecules** 225 (2023), 1426-1436.
17. SA Khan, **S. Sohni**, K Akhtar, EM Bakhsh, T Nawaz, SB Khan, Lignocellulose biomatrix zero-valent cobalt nanoparticles: a dip-catalyst for organic pollutants degradation, **Industrial Crops and Products** 198, (2023), 116694.
18. **S. Sohni**, R. Hashim, H. Nidaullah, O. Sulaiman, C. Leh, J. Lamaming, T. Arai, A. Kosugi, Enhancing the enzymatic digestibility of oil palm biomass using supercritical carbon dioxide-based pretreatment towards biorefinery application, **Industrial Crops & Products**, 157 (2020) 112923.
19. K. Akhtar, F. Ali, **S. Sohni**, T. Kamal, A. M. Asiri, E. Bakhsh, S. B. Khan, Lignocellulosic biomass supported metal nanoparticles for the catalytic reduction of organic pollutants, **Environmental Science and Pollution Research**, 27 (2020) 823-836.
20. **S. Sohni**, R. Hashim, H. Nidaullah, J. Lamaming, O. Sulaiman, Chitosan/nano-lignin based composite as a new sorbent for enhanced removal of dye pollution from aqueous solutions, **International Journal of Biological Macromolecules**, 132 (2019) 1304-1317.
21. N. Umbreen, **S. Sohni**, I. Ahmad, N.U. Khattak, K. Gul, Self-assembled three-dimensional reduced graphene oxide-based hydrogel for highly efficient and facile removal of pharmaceutical compounds from aqueous solution, **Journal of Colloid and Interface Science** 527 (2018) 356-367.
22. **S. Sohni**, S.A. Khan, K. Akhtar, S.B. Khan, A.M. Asiri, R. Hashim, A.K.M. Omar, Room temperature preparation of lignocellulosic biomass supported heterostructure (Cu+Co@OPF) as highly efficient multifunctional nanocatalyst using wetness co-impregnation, **Colloids and Surfaces A: Physicochemical and Engineering Aspects** 549 (2018) 184-195.

23. **S. Sohni**, N.A. Nik Norulaini, Rokiah Hashim, Sher Bahadar Khan, Widad Fadhullah, A.K. Mohd Omar. Physicochemical Characterization of Malaysian Crop and Agro-industrial Biomass Residues as Renewable Energy Resources, *Industrial Crops & Products* 111 (2018), 642-650.
24. **Sohni, S.**, Gul, K., Ahmad, F., Ahmad, I., Khan, A., Khan, N., & Bahadar Khan, S. Highly efficient removal of acid red-17 and bromophenol blue dyes from industrial wastewater using graphene oxide functionalized magnetic chitosan composite. *Polymer Composites* 39 (2018) (3317-3328).
25. Gul, K., **Sohni, S.**, Waqar, M., Ahmad, F., Norulaini, N. N., & AK, M. O. Functionalization of magnetic chitosan with graphene oxide for removal of cationic and anionic dyes from aqueous solution. *Carbohydrate Polymers*, 152, (2016) 520-531.
26. Gul, K., **Sohni, S.**, Ahmad, I., Ullah Khattak, N., Zada, R., Akhtar, N., & Bahisht, N. Synthesis and Characterization of Graphene/Fe₃O₄ Nanocomposite as an Effective Adsorbent for Removal of Acid Red-17 and Remazol Brilliant Blue R from Aqueous Solutions. *Current Nanoscience*, 12 (2016), 554-563.
27. H. NidaUllah, A.K. Mohd Omar, A. Rosma, N. Huda, and **S. Sohni**. Analysis of Salmonella Contamination in Poultry Meat at Various Retailing, Different Storage Temperatures and Carcass Cuts-A Literature Survey *International Journal of Poultry Science* (2016).

BOOK CHAPTER

1. Ullah, S., E. P. Ferreira-Neto, **S. Sohni**, A. Ali, and R. Parveen (2022). Modification and derivatization of cellulose-based nanobiosorbents and their utilization in environmental remediation. Nano-Biosorbents for Decontamination of Water, Air, and Soil Pollution, Elsevier: 359-394.
2. **S. Sohni**, H. Nidaullah, K. Gul, I. Ahmad, and A. M. Omar (2018). "Nanotechnology for Safe and Sustainable Environment: Realm of Wonders." Khan, SB, Asiri, AM and Akhtar, K. (2018), Nanomaterials and their Fascinating Attributes–Development and Prospective Applications of Nanoscience and Nanotechnology 2: 37-117.

CONFERENCE PAPER, POSTER PRESENTATION & WORKSHOPS

1. 2^{1st} International & 33rd National Chemistry Conference on Chemical Sciences: Technology, Innovation & Sustainability, 23-25 October 2023, Department of Chemistry, Quaid-i-Azam University Islamabad.
2. 1st International Women Conference (Breaking Barriers, Building Bridges: Uniting Women's Voices for a Better World), 4-5 December, 2023, Serena Hotel Peshawar, Shaheed Benazir Bhutto Women University
3. Spring Research Poster Symposium, Institute of Chemical Sciences, University of Peshawar, 24th May 2023.
4. Evaluation of Malaysia's biodiversity biomass for biofuel potential, 5th International Conference on Environmental Research and Technology (ICERT 2017), 23rd-25th August 2017, George Town, Penang, Malaysia.
5. Preparation of graphene based nanocomposites as an effective adsorbent for Acid Red 17 and Remazol Brilliant Blue R from aqueous solution, 25th National and 13th International Chemistry Conference 2014, Institute of Chemistry, University of Punjab, Lahore, Pakistan.
6. Synthesis and characterization of graphene/Fe₃O₄ nanocomposite as an effective adsorbent for acidic and basic dyes from aqueous solutions, Department of Chemistry, University of Malakand, Conference: 27th National and 15th International Chemistry Conference, 2016.
7. Molecularly imprinted polymer for solid phase extraction of fenoxaprop-p-ethyl, Institute of Chemical Sciences, University of Peshawar, Khyber Pakhtoon Khwa, Pakistan, Conference: 4th Spring Poster Presentation Symposium” organized by The Chemical Society, Institute of Chemical Sciences, University of Peshawar, 2013.
8. Workshop on “Occupational Safety and Health (OSH) Course” September 2018, School of Pharmaceutical Science, Universiti Sains Malaysia.

9. Seminar on “Basic UV Spectrophotometry and Chromatography” April 2017, School of Industrial Technology, Universiti Sains Malaysia.
10. Three days Training Workshop on “Data treatment by SPSS software” September 2014 at Teachers Community Centre (TCC) organized by Peshawar University Teacher’s Association.
11. Three days Training Workshop on “Research and Proposal Writing” February 2010 at Teachers Community Centre (TCC) organized by Peshawar University Teacher’s Association (PUTA).
12. Three days Training on Basic First Aid to injure organized by Pakistan Red Crescent Society on 10th November and 12th November 2010.
13. Three days Symposium on “Recent Trends in Indigenous Chemical Research & Awareness on Data Presentation Skills” organized by the Institute of Chemical Sciences, University of Peshawar in July 2009 in Bara Gali Summer Campus.

EXPERIENCE

Lecturer in Chemistry, University of Peshawar (Since June 2009)

COURSES TAUGHT AT UNDERGRADUATE & MASTER LEVEL

- CHEM-111: Analytical Chemistry
- CHEM-211: Analytical Chemistry (Volumetric and gravimetric analysis)
- CHEM-412: Electrochemical Methods (Potentiometry and voltammetry)
- CHEM-413: Emission Spectroscopy
- CHEM-673: Inorganic Chemistry
- CHEM 772: Molecular Spectroscopy
- CHEM 778: Atomic Spectroscopy

SERVICE TO UNIVERSITY & GOVERNMENT

- The Institution of Public Service Commission of Khyber Pakhtunkhwa, Faculty Hiring committee (2022).
- Coordinator for Community Service Program (CSP) at the University of Peshawar (2022 onwards)
- Student Award Committee for Higher Education Commission's Ehsaas Undergraduate Scholarship Program (2022)
- Assistant Coordinator for Higher studies (2021-2022)
- Assistant Coordinator for Undergraduate studies. (2019-2020)
- Institute of Chemical Sciences, Undergraduate Admission Committee
- Institute of Chemical Sciences, Postgraduate Admission Committee
- Presiding officer in the General elections that were held in Pakistan on 11 May 2013
- Institute of Chemical Sciences, University of Peshawar Vision 2020 Development Committee (2012)
- Member of organizing Committee of the “2nd spring research poster exhibition” March 2011; “Workshop on 4-year BS Chemistry” June 30- July 04, 2011; “3rd spring research poster exhibition” March 2012 and “2nd Symposium on Recent Trends in Indigenous Chemical Research and Awareness on Data Presentation Skills” July 2013 held at University of Peshawar
- Weekly seminar in-charge (2011-2012)

REVIEWING ACTIVITIES (90 Verified peer reviews)

- ACS Applied Materials & Interfaces
- ACS Industrial & Engineering Chemistry Research
- ACS Omega
- Biomass Conversion and Biorefinery
- BioResources
- Carbohydrate Polymers
- Chemical and Biological Technologies in Agriculture

- Chemical Engineering Communications
- Coloration Technology
- Desalination and water treatment
- Environmental Engineering and Management Journal
- Green Processing and Synthesis
- International Journal of Biological Macromolecules
- International Journal of Earth Science and Geophysics
- International Journal of Environmental Analytical Chemistry
- International Journal of Industrial Chemistry
- Journal of Chemical & Engineering Data
- Journal of Dispersion Science and Technology
- Journal of Nanostructure in Chemistry
- Journal of Water Process Engineering
- Research on Chemical Intermediates
- Science of the Total Environment
- Silicon
- Scientific Reports