

Proactive HEC-approved research supervisor with 10 years' experience teaching graduate and postgraduate students and implementing robust learning approaches aimed at enhancing students' progress. A stellar record of conducting research on the synthesis of heterocyclic compounds through conventional as well as microwave-assisted protocols for the development of C-C, C-X (X=N, S, and O), and S-N linkages and metal complexes and the characterization of products through advanced spectroscopic techniques to drive structural confirmations. Equipped with a strong understanding of molecular docking, BSA binding, and DFT analysis, ADME studies machine-aided drug discovery. I was recognized for facilitating 20 postgraduate and 25 graduate students as a research supervisor and 3 PhD students as a co-supervisor. Excel at evaluating students' critical and analytical skills by developing curriculum-based assessments to determine and facilitate weak students using analytical pedagogy. Expert in collaborating cross-functionally with diverse teams within challenging environments.

Areas of Expertise

- ◆ Synthesis of Heterocyclic Compounds
- ◆ Synthesis of Coordination Compounds
- ◆ NMR (1D & 2D), FTIR, EI-MS, UV/VIS, BSA Binding
- ◆ DFT Studies
- ◆ Molecular Docking
- ◆ ADMET using In Silico approach
- ◆ ChemDraw, EDraw, EndNOTE, Microsoft Office Suite, Canva
- ◆ Lecture Development & Delivery
- ◆ Student Assessments
- ◆ Curriculum Development
- ◆ Faculty Collaboration
- ◆ Writing Research Articles

Applied Work & Expertise

- ◆ Formulation of Variety of Detergents
- ◆ Hand Sanitizer
- ◆ Floor & Wash Room Cleaners
- ◆ Hand Wash

Education

Doctor of Philosophy in Chemistry | Government College University, Lahore, PK | **2018**

Dissertation: Synthesis & bioactivity studies of various 2,5-disubstituted-1,3,4-oxadiazole and 3,4,5- trisubstituted-1,2,4-triazole molecules having azinane core.

Master of Philosophy in Chemistry | University of Agriculture, Faisalabad, PK | **2011**

Thesis: Biological evaluation of compounds extracted from the medicinal plants, Lawsonia inermis, Cichorium intybus, Peganum harmala, & Ajuга bracteosa.

Bachelor of Science in Chemistry | Government College University, Faisalabad, PK | **2008**

Thesis: Estimation of heavy metals from the tannery effluents by orange peel as an adsorbent.

Professional Training

- **Capacity Building Program for University Management** | National Academy of Higher Education (NAHE), Higher Education Commission (HEC), Islamabad, Pakistan. April 28th – 2nd May, 2025.
- **Intellectual Property Rights and Patent Filing** | Punjab Higher Education Commission (PHEC), 2024
- **Online Education: Tools & Strategies** | Punjab Higher Education Commission (PHEC), 2020

Professional Experience

University of Sahiwal, Sahiwal, PK

2020 – Present

Senior Lecturer – Department of Chemistry

- Develop comprehensive curriculum and organize fascinating lessons regarding diverse concepts of Chemistry to benefit students in meeting educational needs by providing constructive feedback
- Create small groups to enhance progress of weak students by providing personalized tutoring on Chemistry and implementing cooperative learning strategies as per requirements
- Member, Departmental Admission Committee – University of Sahiwal
- Departmental Nominee for ORIC Assignments - University of Sahiwal
- Research/Conference/ Symposium organizer
- Established research lab, and supervised 8 MPhil and 10 BS research students
- Departmental annual function organizer

University of Sahiwal, Sahiwal, PK

2024 – Present

Deputy Director – Directorate of Academics

- University Central Timetable

University of Sahiwal, Sahiwal, PK Secretary Grievance Committee

2024 – Present

University of Sahiwal, Sahiwal, PK Internal member of AT teams of QEC

2024 – Present

University of Lahore, Lahore, PK

2019 – 2020

Section Head – Inorganic Chemistry / Assistant Professor – Chemistry

- Facilitated students by creating and implementing innovative curriculum, as well as delivered lectures pertaining to Inorganic Chemistry to fulfill unique potential of each student
- Provided exceptional support to students in preparing proposals, collating essential data, drawing conclusions, creating journal articles, and writing research papers in line with set protocols
- Member, Departmental Postgraduate Research Committee – University of Lahore
- Supervised 10 MPhil and 15 BS/MSc research students

Pak Vision College, Lahore, PK

2018 –2019

Lecturer

- Designed and delivered engaging lectures pertaining to various concepts of Chemistry, leading towards enhancing knowledge, competence, and understanding of all students
- Prepared learning materials on the subject matter and designed schemes of work, while maintaining comprehensive records highlighting students' progress and attendance
- Received commendation from senior management for ameliorating students' learning and overall class progress through effective lesson planning and complex issue resolution

Government College University, Lahore, PK

2014 – 2018

Research Assistant

- Conducted in-depth research on the selected topic to gather useful information and analyze important data in order to design, select, and perform experiments in line with the literature
- Calibrated and maintained laboratory equipment to increase results' precision, as well as summarized experiment findings to compile results for submission of thesis within time constraints
- Planned and organized meetings with Research Supervisor on weekly basis to discuss research findings, share progress reports, and resolve intricate issues regarding experimentation

Government College University, Faisalabad, PK

2013 – 2014

Visiting Faculty

- Supported professors and lecturers in developing courses, creating lecture structure, forming coursework contents, and preparing assessments following defined curriculum
- Participated in various faculty-organized training programs and seminars to acquire essential expertise relating to teaching methodologies, latest technologies, and lectureship
- Leveraged strong interpersonal communication skills to establish and foster long-term professional relationships with students, staff personnel, and senior management

Editorial Memberships

2025 – Present

- [Editor](#) | PLOS One Journal
- [Editorial Board Member](#) | SCIREA Journal of Chemistry

Societies Memberships

- [Member](#) | Royal Society of Chemistry
- [Member](#) | American Chemical Society
- [Member](#) | International Younger Chemists Network
- [Member](#) | Asian Phytopathological Society

Reviewer

- Reviewer, Journal of American Chemical Society
- Reviewer, American Journal of Heterocyclic Chemistry
- Reviewer, Journal of Medicinal Chemistry
- Reviewer, Journal of Heterocyclic Chemistry
- Reviewer, Thesis of MPhil and MSc Chemistry as External Examiner – FCCU / GCU / UOL

Award & Achievements

- Recognized among 2% of the world's top scientists for the year 2023 in the prestigious list compiled by Stanford University, USA, and Elsevier.

Conferences & Presentations

1. 2nd Natural Sciences Symposium, Arranged as Coordinator, Department of Chemistry, University of Sahiwal, May 23rd 2024.
2. The 28th International Electronic Conference on Synthetic Organic Chemistry session Microwave Assisted Synthesis. MDPI. 15 November 2024. sciforum-102306.
3. The 27th International Electronic Conference on Synthetic Organic Chemistry session Microwave Assisted Synthesis, Basel, Switzerland, 15 November 2023.
4. Natural Sciences Symposium, Arranged as Coordinator, Department of Chemistry, University of Sahiwal, 2023
5. Research Symposium, Department of Chemistry, University of Sahiwal, 2021
6. 2nd International Conference on Recent Advances in Chemical Sciences, Department of Chemistry GC University & Pakistan Institute of Chemist, 2019
7. Research Symposium, University of Lahore, 2019
8. International Chemistry Conference for the Promotion of University-Industry Linkage, Department of Chemistry GC University & Pakistan Institute of Chemicals, 2018
9. 1st International Conference on Forensic Science & Justice, Department of Chemistry GC University, 2014

Publications

1. 2025: Naeem A. Virk, Aziz-ur-Rehman**, **Javed Iqbal***, Tahir Ali Chohan, Abdullah R. Alzahrani, Talha Jawaid, Zia Ur Rehman, Abida Khan. Structural Engineering, BSA Binding and Computational Analysis of Isonipacotote Based Enzyme Inhibitors Containing 1,2,4-Triazole. PLOS One. 2025. (Accepted)
2. 2025: Shahid Rasool, Aziz-ur-Rehman**, **Javed Iqbal***, Tahir Ali Chohan, Siddique Akber Ansari, Obaid S. Alruqi, Shoeb Anwar Ansari, Syed Adnan Ali Shah. Oxadiazole-Mediated O–C–N Microwave Assisted Activation as Bioactive Analogs Supported by In Vitro, In Silico and DFT Studies. Heterocyclic Communications. 2025. (Accepted).
3. 2025: Zeeshan Munir, Aziz-ur Rehman,* Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Ali Imran Mallhi, **Javed Iqbal**, Hira Khalid, Shahid Rasool, Muhammad Ashraf, Syed Adnan Ali Shah, and Syahrul Imran. Computational Evaluation of Azinane–Amide-Coupled Triazoles Enabled by an Alkali Metal Reagent as Anti-Enzymatic Agents. ACS Omega 2025, <https://doi.org/10.1021/acsomega.5c06338>.
4. 2025: Maria Ayub, Sabahat Zahra Siddiqui,* Aziz-ur Rehman, Muhammad Athar Abbasi, Riffat Parveen, Syed Adnan Ali Shah, Aamir Mushtaq, **Javed Iqbal**, Hira Khalid, Syahrul Imran, and Ghazanfar Abbas. Design, Synthesis, and Computational Studies of Novel N-(Substituted phenyl)-3-(5-((naphthalen-2-yloxy)methyl)-4-phenyl-4H-1,2,4-triazol-3-ylthio)acetamides as Potent Acetylcholinesterase Inhibitors. ACS Omega 2025, 10, 45191–45203.
5. 2025: Muhammad Adnan Ayub, Ambreen Fatima, Muhammad Asif Javaid, Mohamed Fawzy Ramadan, Muhammad Shahid, **Javed Iqbal**, Ali Bahadur. Optimization of the antioxidant effect of Citrus Limetta essential oil by response surface methodology and evaluation of its antimicrobial activity. Journal of Food Measurement and Characterization. 2025: <https://doi.org/10.1007/s11694-025-03597-9>.
6. 2025: Zeeshan Munir, Aziz-ur- Rehmana,* Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, **Javed Iqbal**, Hira Amjad, Sujhla Hamid, Ayesha Momen, Hira Khalid, Shahid Rasool, Muhammad Ashraf. Synthesis, biological analysis and computational studies of substituted 1,2,4-triazoles: FMO, MEP and docking investigations. Journal of Molecular Structure. 2025; 1338: 142276.
7. 2025: Divya Nagarajan, **Javed Iqbal***, Ayesha Aslam, Nadia Bhatti, Aziz Ur Rehman, Muhammad Irfan, Sharif Ahmed, Muhammad Tanveer Altaf, Waqas Liaqat, Chukwuma Ogbaga, Agalya Jasmin, Jothika Manokaran, Vijayalakshmi Shankar, Ayman El Sabagh, Karthika Rajendran. Nanotechnology in post-harvest and shelf life enhancing: Revolutionizing food preservation. Plant Science Today. 2025; 12(4): 1-17. <https://doi.org/10.14719/pst.6503>
8. 2025: Fatiqa Zafar, Riaz Hussain, Asifa Rani, **Javed Iqbal**, Rimsha Irshad, Fareeha Bashir, Muhammad Adnan. Designing of bithiophene based compatible non-fullerene acceptors with enhanced photovoltaic properties. Materials Science in Semiconductor Processing. 2025; 195: 109604.
9. 2024: Sujhla Hamid, Hira Amjad, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Muhammad Ashrafa, **Javed Iqbal**, Muhammad Farhan, Shahid Rasool, Syed Adnan Ali Shah, Syahrul Imran, Muhammad Tjammal Rehman, Aziz-ur- Rehman.

New piperidinyl heterocyclic azoles acquired through Li(I)-catalyzed reactions: Anti-enzymatic, ADME and computational studies. *Journal of Molecular Structure*. 2024; 1302: 137493.

10. **2024:** Usman Anwar, Ayesha Sadiqa, Farhat Yasmeen, **Javed Iqbal***, Bushra Nisar Khan, Tabassam Razaq, Dongwhi Choi, Dong Yong Park. Revolutionizing Topical Delivery: Nano emulsion of Cuminum cyminum Essential Oil and Neomycin Sulphate for Targeted Antimicrobial Actions. *Nanotechnology Reviews*. 2024. Ref.: Ms. No. NTREV-D-24-00124R1. Accepted.
11. **2024:** Muhammad Yasir, Nuzhat Jamil, Hafiz Muhammad Saad Ali, Maria Hussain, Muhammad Akram Naveed, Toheed Ahmed, Attaullah Bukhari, Qudsia Kanwal, **Javed Iqbal**, Madiha Nusrat. Evaluation of antioxidant, cytoprotective and genoprotective potential of *Syzygium aromaticum* (L.) hydrolyzed extracts. *International Journal of Chemical and Biochemical Sciences (IJCBS)*. 2024; 26(20): 35-43.
12. **2024:** Muhammad Umair, Aziz-ur-Rehman,*, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, **Javed Iqbal,***, Fatiqa Zafar, Shahid Rasool, Shafi Ullah Khan, Syed Adnan Ali Shah. Multi-selective reaction of azinane bearing oxadiazoles and substituted haloalkanes catalyzed by alkali metal hydride to access anti-enzymatic agents. *Journal of Molecular Structure*. 2024; 1297: 136936. <https://doi.org/10.1016/j.molstruc.2023.136936>.
13. **2023:** **Javed Iqbal***, Ali Imran Mallhi, Aziz-ur-Rehman**, Samiah H. Al-Mijalli, Mehr-un-Nisa, Fatiqa Zafar, Sohail Shahzad, Shahid Rasool, Munawar Iqbal, Syed A. Ali Shah,. Design and synthesis of various 1,3,4-oxadiazoles as AChE and LOX enzymes inhibitors. *Heterocyclic Communication*. 2023; 29: 20220169.
14. **2023:** **Javed Iqbal***, Naeem Akhtar Virk, Aziz Ur Rehman, Aleksey Kuznetsov, Shahid Rasool, Muhammad Yasir and Syed Adnan Ali Shah,. Biological docking and BSA binding studies of 1,4-disubstituted piperidine containing 1,2,4-triazoles: Comparative synthesis leveraging microwave assisted and conventional protocols. *Chemistry Proceedings*. 2023; 14: 106.
15. **2023:** Hira Amjad, **Javed Iqbal***, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Shahid Rasool, Muhammad Ashraf, Syed Adnan Ali Shah, Aziz ur Rehman. In vitro & in silico assessment of bioactivity properties & pharmacokinetic studies of new 3,5-disubstituted-1,2,4-triazoles. *Journal of Molecular Structure*. 2023; 1275: 13472
16. **2023:** Naeem A. Virk, **Javed Iqbal***, Aziz-ur-Rehman, M. A. Abbasi, Sabahat Z. Siddiqui, Shahid Rasool, Mehr-un-Nisa, M. Amin Abid, Hira Khalid, Fatiqa Zafar & Huraiza Javaid. In vitro biological assessment of 1,3,4-oxadiazole sandwiched by azinane & acetamides supported by molecular docking & BSA binding studies. *Current Chemistry Letters*. 2023; 12: 353–368
17. **2023:** Naeem Akhtar Virk, Aziz ur Rehman, Ahmad Shuaib, **Javed Iqbal***, Shahid Rasool, Samiah H. Al-Mijalli, Muhammad Amin Abid, Mehr-un- Nisa, Syed Adnan Ali Shah, Muhammad Saadiq. Novel 1,2,4-triazoles as anti-enzymatic agents: Microwave versus conventional synthesis, characterization, docking & BSA binding studies. *Journal of Molecular Structure*. 2023; 1281: 135070.
18. **2023:** Asifa Rani, Fatiqa Zafar, **Javed Iqbal**, In silico end-capped engineering of 4,4-dimethyl-[2,2-bithiazole] core-based acceptor materials for high performance organic solar cells. *Journal of Physical Organic chemistry*. 2023; DOI: 10.1002/poc.4557.
19. **2023:** Fatiqa Zafar, Riaz Hussain, Muhammad Adnan, Jongchul Limc, **Javed Iqbal**, Mahrzadi Noureen Shahi, Waseeq-Ul-Islam Zafar. Designing spiro-bifluorene core-based promising molecules with enhanced optoelectronic attributes for high efficiency solar cell devices. *Molecular Physics*. 2023; DOI: 10.1080/00268976.2023.2231571.
20. **2023:** Muhammad Umair, Aziz ur Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, **Javed Iqbal**, Hira Khalid, Shahid Rasool, Shafi Ullah Khan, & Fatiqa Zafar. Modular & Computational Access to Innocuous Multistep Metal-Free Synthesis of 1,3,4-Oxadiazoles as Enzyme Inhibitors. *ACS Omega*. 2023, 8, 11952–11965. <https://doi.org/10.1021/acsomega.2c07612>.
21. **2023:** Asifa Rani, Fatiqa Zafar, **Javed Iqbal**, Impact of π -Linker Modifications on the Photovoltaic Performance of Organic Solar Cells: A Theoretical Perspective. *Computational and Theoretical Chemistry*. 2023; 1225: 114137 <https://doi.org/10.1016/j.comptc.2023.114137>.
22. **2021:** Jamila Javed, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, **Javed Iqbal**, Naeem Akhtar Virk, Shahid Rasool, Syed Adnan Ali Shah. Comparative conventional and microwave assisted synthesis of heterocyclic oxadiazole analogues having enzymatic inhibition potential. *Journal of Heterocyclic Chemistry*. 2021; 58: 93–110.
23. **2021:** **Javed Iqbal***. Curative effects of vitamin against cisplatin induced nephrotoxicity in male. *International Journal of Chemical Sciences*. 2021; 19(7): 13026.
24. **2020:** **Javed Iqbal**, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Hira Khalid, Sabina Jhaumeer Laulloo, Tahir Ali Chohan, Shahid Rasool & Syed Adnan Ali Shah. BSA Binding, molecular docking & in vitro biological screening of some new 1,2,4-triazole heterocycles bearing azinane nucleus. *Pakistan Journal of Pharmaceutical Sciences*. 2020; 33; 149-160.
25. **2020:** **Javed Iqbal**, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Shahid Rasool, Muhammad Ashraf, Ambar Iqbal, Sujhla Hamid, Tahir Ali Chohan, Hira Khalid, Sabina Jhaumeer Laulloo, Syed Adnan Ali Shah. Biological activity

- supported by in silico & BSA binding studies of synthesized 5-[1-[(4-chlorophenyl) sulfonyl] piperidin-4-yl]-2-mercapto-1,3,4-oxadiazole derivatives. *Brazilian Journal of Pharmaceutical Sciences*. 2020; 56: e18092.
26. **2020:** Naeem Akhtar Virk, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, **Javed Iqbal**, Shahid Rasool, Syed Adnan Ali Shah. Microwave assisted synthesis of triazole derivatives conjugated with piperidine as new anti-enzymatic. *Journal of Heterocyclic Chemistry*. 2020; 57: 1387–1402.
 27. **2019:** Naeem Akhtar Virk, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Ashraf Ali, **Javed Iqbal**, Shahid Rasool, Hira Khalid, Sabina Jhaumeer Laulloo, Shafi Ullah Khan, Syed Adnan Ali Shah. Biological screening, BSA binding & docking studies of unique hybrids synthesized by conventional versus microwave assisted techniques. *Tropical Journal of Pharmaceutical Research*. May 2019; 18 (5): 1109- 1117.
 28. **2018:** Aziz-ur-Rehman, **Javed Iqbal**, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Hira Khalid, Sabina Jhaumeer Laulloo, Naeem Akhtar Virk, Shahid Rasool & Syed Adnan Ali Shah. Compounds with 1,3,4-oxadiazole and azinane appendages to evaluate enzymes inhibition applications supported by docking & BSA binding. *Cogent Chemistry*. (2018); 4; 1441597.
 29. **2018:** **Javed Iqbal**, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Hira Khalid, Sabina Jhaumeer Laulloo, Nausheen Joondan, Anisah BanuTaupass, Shahid Rasool, Syed Adnan Ali Shah. Synthesis of acetamide derivatives of 1,2,4-triazole bearing azinane & their binding interactions with bovine serum albumin using spectroscopic techniques. *Turkish Journal of Chemistry*. 2018; 42; 1459–1478.
 30. **2018:** Aziz-ur-Rehman, Noreen Ahtaz, Muhammad Athar Abbasi, Sabahat Zahara Siddiqui, Samreena Saleem, Sameen Manzoor, **Javed Iqbal**, Naeem Akhtar Virk, TahirAli Chohan, Syed Adnan Ali Shah. Synthesis of some new propanamide derivatives bearing 4-piperidinyl-1,3,4-oxadiazole, & their evaluation as promising anticancer agents. *Tropical Journal of Pharmaceutical Research*. 2018; 17 (6); 1145-1153.
 31. **2018:** Naeem Akhtar Virk, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Umer Rashid, **Javed Iqbal**, Muhammad Saleem, Muhammad Ashraf, Wardah Shahid & Syed Adnan Ali Shah. Conventional versus microwave assisted synthesis, molecular docking & enzyme inhibitory activities of new 3,4,5-trisubstituted-1,2,4- triazole analogues. *Pakistan Journal of Pharmaceutical Sciences*. 2018; 31(4); 1501- 1510.
 32. **2018:** Naeem Akhtar Virk, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Asma Ashraf, Hira Javed, **Javed Iqbal**, Shafi Ullah Khan, Hira Khalid. In silico & BSA study of some new biological analogs of 1,2,4-triazole pendant with azinane through microwave & conventional synthesis. *Pakistan Journal of Pharmaceutical Sciences*. 2018; 31; 2645-2654.
 33. **2017:** **Javed Iqbal**, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, ShahidRasool & Syed Adnan Ali Shah. Synthesis, multiparametric structure assessment & biological evaluation of some new 1,3,4-oxadiazoles having piperidine nucleus. *Asian Journal of Chemistry*. 2017; 29(9); 1901-906.
 34. **2017:** **Javed Iqbal**, Aziz-ur-Rehman, Muhammad Athar Abbasi, Sabahat Zahra Siddiqui, Shahid Rasool, Khadija Nafeesa, Samreen Gull Khan & Syed Adnan Ali Shah. Synthesis of N-substituted acetamide derivatives of azinane-bearing 1,3,4-oxadiazole nucleus & screening for antibacterial activity. *Tropical Journal of Pharmaceutical Research*. 2017; 16 (2): 429-437.

Abstract Publications

35. **2024: Author| Javed Iqbal**, Shahid Rasool, Aziz ur Rehman Fatiga Zafar, Sonia Maqbool, Nadia Bhatti, Syed Adnan Ali Shah, Syahrul Imran. Title: Microwave assisted synthesis, antibacterial and computational evaluation of acetamide derivatives of 5-[[[(6-Chloro-4-methyl-2-oxo-2H-chromen-7-yl)oxy]methyl]-1,3,4-oxadiazol-2-thiol. The 28th International Electronic Conference on Synthetic Organic Chemistry session Microwave Assisted Synthesis. MDPI. 15 November 2024. sciforum-102306.
36. **2023: Author: Dr Javed Iqbal | Title:** Biological, docking and BSA binding studies of 1,4-disubstituted piperidine containing 1,2,4-triazoles: Comparative synthesis leveraging microwave assisted and conventional protocols. *The 27th International Electronic Conference on Synthetic Organic Chemistry session Microwave Assisted Synthesis*. MDPI. 15 November 2023. <https://doi.org/10.3390/ecsoc-27-16281>.

Book Chapter

37. **Title of the Chapter:** Antimicrobial drug resistance & its impact with nanomedicine | **Author:** Dr Javed Iqbal; <http://editorial.elsevier.com/app/book?execution=e1s3>
38. **Javed Iqbal**, Sonia Maqbool, Nadia Bhatti, Aziz-ur-Rehman: **Title of the Chapter 3:** Magnetism, Metamaterials, and Other Physical Properties of Magnetic Nanomaterials; **Title of the Book:** Magnetic Polymer Composites and Their Emerging Applications. First Published 2024; Taylor & Francis Group; Edition 1st Edition; Pages 28; eBook ISBN9781003454236,

39. **Javed Iqbal**, Sonia Maqbool, Nadia Bhatti, Aziz-ur-Rehman: **Title of the Chapter 13:** Magnetic Polymer Composites for Agriculture Applications; **Title of the Book:** Magnetic Polymer Composites and Their Emerging Applications. First Published 2024; Taylor & Francis Group; Edition 1st Edition; Pages 18; eBook ISBN 9781003454236,