

**MUHAMMAD AKHTAR (PROF. DR.)**  
(Principal Investigator / HEC Approved PhD Supervisor)

**Professor of Pharmaceutics**

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**ACADEMICS**

**Date of completion**

- **Post-Doc** (Pharmaceutics, Nanomedicine & Drug Delivery) (Dec. 2018) King’s College London, UK
- **Ph.D.** (Pharmaceutics) (Dec. 2014) The Islamia University of Bahawalpur, Pakistan / IRSIP-HEC Pakistan at Queen’s University Belfast, UK
- **M.Phil.** (Pharmaceutics) (May 2006) The Islamia University of Bahawalpur, Pakistan
- **B.Pharm.** (Pharmacy) (Nov. 2003) The Islamia University of Bahawalpur, Pakistan

**EXPERIENCE (Teaching / Research / Administration)**

- **Professor** (08-12-2020 - to date) Department of Pharmaceutics, The Islamia University of Bahawalpur, Pakistan
- **In-Charge / Chairman** (19-12-2024 - to date) Department of Human Nutrition and Dietetics, IUB.
- **Founding Chairman** (11-08-2020 to 04-10-2023) Department of Medical Laboratory Technology, IUB.
- **Associate Professor** (26-10-2019 to 07-12-2020) Department of Pharmacy, IUB
- **Post-Doc Fellowship** (11-01-2018 to 09-12-2018) Institute of Pharmaceutical Science, King’s College London, UK
- **Assistant Professor** (07-07-2013 to 25-10-2019) Department of Pharmacy, IUB
- **Lecturer** (15-08-2006 to 06-07-2013) Department of Pharmacy, the Islamia University of Bahawalpur, Pakistan

**RESEARCH EXPERIENCE / INTEREST**

- Nanomedicine & Drug Delivery, Targeted Nanocarrier Drug Delivery (Colon cancer, Pancreatic cancer, Breast cancer, Nose to Brain drug delivery).
- MTT assay, IC50 of anticancer drugs, worked with BxPC3, CT26, 4T1, GL261, B16 cell lines, MicroBCA assay for proteins quantifications.
- PLGA, PEG-PLGA, PEG, PLC, Chitosan polymeric nanoparticulate drug delivery of sTRAIL proteins and anticancer drugs for different cancer types.
- Pharmacokinetics and Bioequivalence using healthy human volunteers. HPLC method development and validation.

**RESEARCH SUPERVISION PH.D. / M.PHIL.**

Degree Title	Degrees awarded as Supervisor	Current enrollment (Lab work in progress)
M.PHIL. (Pharmaceutics)	Supervisor (27) / Co-Supervisor (02)	Supervisor (01)
PH.D. (Pharmaceutics)	Supervisor (04) / Co-Supervisor (02)	Supervisor (05) / Co-Supervisor (01)

**SELECTED RESEARCH/REVIEW ARTICLES PUBLISHED**

Research articles published in peer-reviewed I.F. International/ National journals: (51)

**Recently published 10 selected research publications**

1. Wenshuai Li, Hongyuan Li, Chenteng Lin, Guangwei Jiang, Lan Yang, Meng Zhang, Huifang Nie, Wenjia Gao, **Muhammad Akhtar**, Sharon Prince, Rongqin Huang (2025) Axially Chlorinated Carbon Nanodots for Hypoxia-Tolerant Neutrophil-Mimicking Photoenzymatic Cascade Therapy against Postoperative Tumor Recurrence. ACS Nano. (Jul 3, 2025). DOI: <https://doi.org/10.1021/acsnano.5c07997> (IF 16)
2. Asma Majeed, **Muhammad Akhtar\***, Mehran Khan, Muhammad Ijaz, Pakeeza Hussain, Tahir Maqbool, Hanasul Hanan (2024), Hemocompatible and biocompatible hybrid nanocarriers for enhanced oral bioavailability of paclitaxel: *in vivo* evaluation. Colloids and Surfaces B: Biointerfaces 242 (2024) 114073. <https://doi.org/10.1016/j.colsurfb.2024.114073> (IF 5.4)
3. Chenteng Lin, **Muhammad Akhtar**, Yingjie Li, Min Ji, and Rongqin Huang (2024), Recent Developments in CaCO3 Nano-Drug Delivery Systems: Advancing Biomedicine in Tumor Diagnosis and Treatment. Pharmaceutics. 16(2): 275. <https://doi.org/10.3390/pharmaceutics16020275> (IF 5.4)
4. Mehran Khan, **Muhammad Akhtar\***, Asma Majeed, Hadia Sadaquat, Rehmana Rashid, Zafar Iqbal, and Hafiz Muhammad Usman Abid (2024), Formulation of chitosan based lipid polymer hybrid nanocarrier system for oral delivery of tamoxifen citrate: Toxicological and hemocompatibility evaluation. Journal of Drug Delivery Science and Technology. 91(2024): 105175. <https://doi.org/10.1016/j.jddst.2023.105175> (IF 5.0)
5. Muhammad Mubashar Idrees, Khadija Saeed, Muhammad Akbar Shahid, **Muhammad Akhtar**, Khadija Qammar, Javariya Hassan, Tayyaba Khaliq, and Ali Saeed (2023) Prevalence of mecA-and mecC-Associated Methicillin-Resistant Staphylococcus aureus in Clinical Specimens, Punjab, Pakistan. Biomedicines 11(3): 878. <https://doi.org/10.3390/biomedicines11030878> (IF 4.7)
6. Shees Safdar, Muhammad Khurram Waqas, Manal Buabeid, Akram, Ashames, **Muhammad Akhtar** & Ghulam Murtaza (2022) Alginate-coated chitosan nanoparticles for pH dependent release of tamoxifen citrate. Journal of Experimental Nanoscience: 17:1, 522-534, DOI: 10.1080/17458080.2022.2112919 (IF 2.024)
7. Yi Wang, Min Qian, Yilin Du, Jianglu Zhou, Taotao Huo, Wei Guo, **Muhammad Akhtar**, and Rongqin Huang (2022) Tumor-Selective Biodegradation-Regulated Photothermal H<sub>2</sub>S Donor for Redox Dyshomeostasis-and Glycolysis Disorder-Enhanced Theranostics. Small: e2106168-e2106168. (IF 15.153)
8. Taotao Huo, Leilei chen, Huifang Nie, Wenshuai Li, Chenteng Lin, **Muhammad Akhtar**, and Rongqin Huang (2022) Mitochondrial Dysfunction and Antioxidation Dyshomeostasis-Enhanced Tumor Starvation Synergistic Chemotherapy Achieved using a Metal–Organic Framework-Based Nano-Enzyme Reactor. ACS Applied Materials & Interfaces. (IF 10.383)
9. Zunaira Alvi, **Muhammad Akhtar\***, Arshad Mahmood, Nisar-ur-Rahman, Imran Nazir, Hadia Sadaquat, Muhammad Ijaz, Shahzada Khurram Syed, Muhammad Khurram Waqas, Yi Wang (2021) Enhanced oral bioavailability of epalrestat SBE<sub>7</sub>-β-CD complex loaded chitosan nanoparticles: preparation, characterization and *in-vivo* pharmacokinetic evaluation. International Journal of Nanomedicine, 2021;16:8353-8373. <https://doi.org/10.2147/IJN.S339857>. (IF 7.033)

10. Hadia Sadaquat, **Muhammad Akhtar\***, Mazher Nazir, Rabbiya Ahmad, Zunaira Alvi, Naveed Akhtar (2021) Biodegradable and biocompatible polymeric nanoparticles for enhanced solubility and safe oral delivery of docetaxel: *In vivo* toxicity evaluation. International Journal of Pharmaceutics, 598 (2021) 120363. <https://doi.org/10.1016/j.ijpharm.2021.120363>. (IF 6.510)
11. Prabhanjan S. Giram, Julie Tzu-Wen Wang, Adam A. Walters, Priyanka P. Rade, **Muhammad Akhtar**, Shunping Han, Farid N. Faruqi, Hend M. Abdel-Bar, Baijayantimala Garnaik and Khuloud T. Al-Jamal (2021) Green synthesis of methoxy-poly(ethylene glycol)-block-poly(L-lactide-co-glycolide) copolymer using zinc proline as a biocompatible initiator for irinotecan delivery to colon cancer *in vivo*. Biomaterials Science, DOI: 10.1039/d0bm01421d. (IF 7.590)

#### AWARDS / HONORS / EDITORIAL BOARD MEMBER

- **Editorial Board (Academic Editor), PLOS ONE** (Multidisciplinary sciences journal) (IF 3.752), USA.
- **Top 2% Scientists**, a list released by Stanford University for the year 2022.
- **Reviewer of Research Grants:** HEC's NRP projects, HEC-PERIDOT projects, PSF CRP 7<sup>th</sup> Call,
- **Reviewer of Journals:** Pharmacy journals (International Journal of Pharmaceutics, Clinical Therapeutics, Current Therapeutics Research, British Journal of Pharmaceutical Research, AAPS PharmSciTech, Pakistan Journal of Pharmacy Research, Chemical Papers, PLOS ONE, Frontiers in Immunology, Antibiotics, Pharmaceutics, Pharmaceuticals, Biomaterials Advances).
- **Post-Doctoral Fellowships by Punjab Higher Education Commission** under "PHEC Foreign Post-Doctoral Fellowships Program FY 2016-2017, Phase-II for Punjab Public Sector Colleges/University Faculty" awarded for one-year at Institute of Pharmaceutical Science, King's College London, UK.
- **Ph.D. research scholarship by Higher Education Commission (HEC)-Pakistan** under International Research Support Initiative Program (IRSIP) for six months (2010-11) at School of Pharmacy, Queen's University of Belfast, UK.
- **Selection as Drugs Inspector/ Hospital Pharmacist/ Pharmaceutical Analyst**, ministry of Health, Government of Punjab-Pakistan selected by Punjab Public Service Commission (PPSC) in 2008 (BPS-17).

#### RESEARCH GRANTS

- **Research Grant as Principal Investigator** by Pakistan Science Foundation (PSF) **PSF/Res/CP/P-IUB/Med (08)**.
- **Research Grant as Principal Investigator** under **ORIC-Research Grant, IUB** by The Islamia University of Bahawalpur, Project no. **3893/ORIC/IUB/2021**.

#### MEMBER PROFESSIONAL SOCIETIES

- Registered Pharmacist (Member), Punjab Pharmacy Council (PPC), Pakistan, Registration No. 3025-A/04.
- Member, Pakistan Pharmacist Association (PPA)
- Member, UK-Ireland Controlled Release Society (UKICRS)
- Member, International Pharmaceutical Federation (FIP), Amsterdam, the Netherlands
- Member, National Academy of Young Scientists (NAYS), Pakistan
- Member, American Association of Pharmaceutical Scientists (AAPS), USA
- Member, Departmental Research Committee (DRC), Department of Pharmaceutics, The Islamia University of Bahawalpur
- In-charge Examination for MPhil and PhD examinations in the subject of Pharmaceutics, Department of Pharmaceutics, The Islamia University of Bahawalpur
- Member Selection Board (Subject Expert: Pharmaceutics), The Women University, Multan
- Member Scrutiny Committee (Subject Expert: Pharmaceutics), Gomal University, Dera Ismail Khan
- Member, Academic Council, The Islamia University of Bahawalpur
- Member, AS&RB, The Islamia University of Bahawalpur
- Member, Senate, The Islamia University of Bahawalpur
- Member, BoF, Faculty of Pharmacy, The Islamia University of Bahawalpur
- Member, BoF, Faculty of Medicine and Allied Health Sciences, The Islamia University of Bahawalpur
- Member, Curriculum Coordination Committee for Affiliated Colleges, The Islamia University of Bahawalpur
- Member, American Chemical Society
- Advisor / Mentor, IUB Blood Donors Society

#### CONFERENCES/WORKSHOPS/SEMINARS (Selected)

- **Keynote Speaker** for the session titled: "Sustainable Solutions and Advancements in Pharmaceutical Sciences" for the 1<sup>st</sup> International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals to be held on November 28<sup>th</sup> – 30<sup>th</sup>, 2024 at Jinnah University for Women, Karachi, Pakistan
- **Master Trainer / (HEC-NAHE Ambassadors / PhD Supervisor)**, Completed Training of PhD Supervisors Capacity Building Program under "Pak-UK Education Gateway Project" held at HEC Islamabad on 07 – 11 August 2023, Organized by National Academy of Higher Education (NAHE), Higher Education Commission, Islamabad in collaboration with British Council, Pakistan.
- 1<sup>st</sup> International Conference on Science, Technology, Engineering, Mathematics and Social Sciences (STEMS), a multi-disciplinary conference, held on March 30-31, 2021, Main Auditorium, Baghdad ul Jadeed Campus, organized by Directorate of International Linkages, The Islamia University of Bahawalpur (IUB).
- Presented research as an **Invited Speaker** in international symposium organized by School of Pharmacy, FUDAN University, China under "Belt and Road Symposium" held online via Zoom on November 30, 2021
- Attended One-day 'NRP Project Development Capacity Building Workshop-2019' Organized by COMSATS University Islamabad, Lahore Campus dated December 23, 2019 at IRCBM, COMSATS University Lahore, Pakistan.
- Presented research as an **Oral Presentation** "Seventh International Pharmaceutical Conference" (ZTIPC 2019) at Al-Zaytoonah University of Jordan, during November 6-7, 2019, Jordan.
- International Pharmacy Conference 2019 (IPC 2019) entitled: Recent Trends in Advancement of Pharmaceutical Sciences: Challenges and Opportunities, organized by Faculty of Pharmacy Bahauddin Zakariya University, Multan, Pakistan in collaboration with Institute of Pharmacy, Lahore College for Women University, Lahore Pakistan dated February 14-16, 2019.

- Organizing Secretary, International Conference on Pharmacy Practice 2017 (ICPP-2017); Conference Theme: “Emerging Role of Pharmacist in Patient Centered Care” dated: January 12-14, 2017 Organized by Faculty of Pharmacy and Alternative Medicine, The Islamia University of Bahawalpur in collaboration with HEC-Pakistan at Ghulam Muhammad Ghotvi Hall, Abbasia Campus, IUB, Bahawalpur.
- 2016 AAPS Annual Meeting & Exposition dated November 13-17, 2016, Organized by American Association of Pharmaceutical Scientists (AAPS) at Colorado Convention Center, Denver, Colorado, USA.
- ISPOR 21<sup>st</sup> Annual International Meeting entitled: *Value, Affordability, and Patient Centeredness: Can We Have It All?* Held at Washington Hilton, Washington, DC USA dated May 21-25, 2016.
- Attended “National Training Workshop on Nanomaterials & One Day Symposium on Nanotechnology in Pakistan; Recent Trends and Developments” dated December 14-16, 2015, held at National Institute of Biotechnology & Genetic Engineering (NIBGE), Faisalabad.