

CURRICULUM VITAE

Khyber Medical University, Peshawar

1. Personal Information

Name: Dr. Mehreen Rahman, R.Ph., Ph.D.

Designation: Lecturer

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2. Professional Summary

- Pharmacist by profession, holding a Pharm-D (Doctor of Pharmacy) and a PhD in Pharmacy (Nanomedicine) from the University of Peshawar, completed under an HEC indigenous scholarship.
- Currently working as a Lecturer at the Institute of Pharmaceutical Sciences, Khyber Medical University (KMU-IPS), since June 2025.
- Research interests centre on nanomedicine and drug delivery, particularly gold-based nanoparticle systems for synergistic thermo-chemotherapy of cancer; doctoral research developed a multifunctional colloidal gold-based cisplatin platform for combined thermal and chemotherapeutic cancer treatment.
- Extensive research experience across nanoparticle synthesis and characterization, drug release studies, in vivo imaging, and cell culture-based cytotoxicity/genotoxicity assays, gained at NILOP and NORI (Pakistan Atomic Energy Commission) under PAK-Norway and related nanomedicine projects.
- Combines academic teaching experience (Lecturer/Assistant Professor roles at KMU-IPS, CECOS University, University of Peshawar, and Gandhara University) with a strong publication record in nanomedicine and pharmaceutical sciences.

3. Academic Qualifications

Degree	Institution	Year
PhD, Pharmacy (Nanomedicine) Thesis: "Multifunctional Colloidal Gold Based Cisplatin for Synergistic Thermo-Chemo Therapy" cGPA: 3.8/4 (HEC Indigenous Scholarship)	Department of Pharmacy, University of Peshawar, Pakistan	2012 – 2021
Pharm-D, Doctor of Pharmacy Dissertation: "Pharmaceutical Management of Cerebrovascular Accidents (Stroke)" 1st Division / 76% (Merit Certificate)	University of Malakand, Pakistan	2005 – 2011
HSSC (Higher Secondary School Certificate) 1st Division / 74%	Federal Board of Intermediate & Secondary Education (FBISE), Pakistan	2003 – 2005
SSC (Secondary School Certificate) 1st Division / 84%	BISE Mardan, Pakistan	2001 – 2003

4. Professional Experience

Position	Organization	Duration
Lecturer	Institute of Pharmaceutical Sciences, Khyber Medical University (KMU-IPS), Peshawar, Pakistan	06/2025 – Present
Assistant Professor (9 credit hrs/week)	Department of Pharmacy, CECOS University, Peshawar, Pakistan	01/2024 – 06/2025
IPFP Fellow (6+2 credit hrs/week)	Institute of Pharmaceutical Sciences, Khyber Medical University (KMU-IPS), Peshawar, Pakistan	12/2022 – 12/2023
Visiting Lecturer (6+2 credit hrs/week)	Department of Pharmacy, University of Peshawar, Pakistan	09/2022 – 11/2022
Researcher, PAK-Norway Project (NIR laser-triggered thermo-chemotherapy of cancer)	Nanotheragnostic Lab, National Institute of Laser and Optronics (NILOP), PAEC, Islamabad, Pakistan	02/2016 – 12/2017
Researcher (metal nanoparticle synthesis optimization)	Nanotheragnostic Lab, Nuclear Medicine, Oncology and Radiotherapy Institute (NORI), PAEC, Islamabad, Pakistan	08/2014 – 05/2016
Lecturer	Gandhara University, Peshawar, Pakistan	03/2011 – 10/2013

Internships

- Hospital internship in cardiology and medical ward, working on stroke cases, Mardan Medical Complex, Mardan, Pakistan (2010–2011).
- Prescription pattern study, Khyber Teaching Hospital, Peshawar, Pakistan (2009).
- Manufacturing process development, post-manufacturing testing, and rectification of drug manufacturing issues, Medicaft Pharmaceuticals, Peshawar, Pakistan (2008).

5. Areas of Specialization / Research Interests

- Nanomedicine — gold and other metallic nanoparticle-based drug delivery systems.
- Cancer Thermo-Chemotherapy — NIR laser-triggered and synergistic thermo-chemotherapeutic platforms.
- Nanoparticle Synthesis & Characterization — stability, drug release kinetics, and in vivo imaging.
- Pharmaceutical Sciences — clinical pharmacy, stroke management, and drug manufacturing quality control.

Research Skills & Techniques

- Independent operation of Dynamic Light Scattering (nanosize analyzer).
- Hands-on experience with FTIR, XRD, TLC, UV spectroscopy, and HPLC.
- Independent handling of cell culture laboratory (secondary cancer cell lines) and optical in vivo imaging systems.
- Laboratory work on bioavailability in laboratory animals, conducted at the National Institute of Health.
- Dry lab: Design Expert software for mathematical modeling of nanoparticle formulation; mathematical modeling of drug release kinetics; ChemBioDraw, GraphPad Prism, Origin 8, ImageJ, UV Probe 2.34, EndNote, and MS Office.
- Wet lab: Synthesis and optimization of metallic nanoparticles; nanoparticle stability and drug release studies; in vivo nanoparticle imaging and characterization; mice/rat dissection; human cell culturing (secondary cancer cell lines, RBCs, macrophages, lymphocytes); cell survival, cytotoxicity, apoptosis, comet, and in vivo micronucleus assays.

6. Publications

Manuscripts Published

- Mirza S, Baseer A, Rahim A, Rehman M, Badshah M, Younatan Y, Ullah KH, Iqbal H. Development and characterization of suppository formulation for rectal delivery of clarithromycin. *Letters in Drug Design & Discovery*, 2025, 100110. <https://doi.org/10.1016/j.lidd.2025.100110> (IMF 1.6)
- Jabeen F, Rahman M, Bibi Z, Maqsood S, Ain QU, Yahya M, Javaid A, Safdar H. Assessing the systemic impacts of COVID-19 on environment, economy, and public health: a global review toward resilience and sustainability. *Int. J. Biol. Biotech.* 2025, 22(3):667–675. (IMF 1.629)
- Rehman M, Khan JA, Raza A. ROS activated cytotoxicity and genotoxicity of Pt-AuNRs. *International Journal of Nanomedicine*, 2024 (submitted).
- Rehman M, Raza A, Khan JA, Zia MA. Laser responsive cisplatin-gold nano-assembly synergizes the effect of cisplatin with compliance. *Journal of Pharmaceutical Sciences*, 2021, 110(4):1749–1760. <https://doi.org/10.1016/j.xphs.2021.01.012> (IMF 3.3)
- Rehman M, Khan JA, Kanwal U, Awan UA, Raza A. Methotrexate-loaded PEGylated gold nanoparticles as hemocompatible and pH-responsive anticancer drug nanoconjugate. *Journal of Nanoparticle Research*, 2021. <https://doi.org/10.1007/s11051-021-05296-0> (IMF 2.1)
- Awan UA, Rehman M, Zia N, Sohaila S, Ovais M, Ali S, Raza A. Stable and reproducible synthesis of gold nanorods for biomedical applications: a comprehensive study. *IET Nanobiotechnology*, 2017, 12(2):182–190. (IMF 1.51)
- Kanwal U, Bukhari NI, Rehman M, Hussain K, Abbas N, Mehmood A, Raza A. Doxorubicin-loaded quaternary ammonium palmitoyl glycol chitosan polymeric nanoformulation: uptake by cells and organs. *International Journal of Nanomedicine*, 2019, 14:1–15. (IMF 5.12)
- Hannan PA, Khan JA, Iqbal Z, Ullah I, Rehman WU, Rehman M, Nasir F, Khan A, Khan I, Muhammad S, Hassan M. Simultaneous determination of endogenous antioxidants and malondialdehyde by RP-HPLC coupled with electrochemical detector in serum samples. *Journal of Liquid Chromatography & Related Technologies*, 2015;38(10):1052–1060.
- Ullah I, Khan JA, Iqbal Z, Hannan PA, Nasir F, Muhammad S, Rehman M. Chemical composition, antibacterial and cytotoxic potential of n-hexane soluble fraction of *Monothea buxifolia* (Falc) A. DC. fruit. *National Academy Science Letters*, 2017, 40:405–408.

Poster Presentation

- “Multifunctional Colloidal Gold Based Cisplatin for Synergistic Thermo-Chemo Therapy,” 3rd International Nanomedicine Symposium (INS-2017), “Nanotheranostics: The Power of Nanomedicine,” NILOP, Islamabad, 21–24 November 2017.

7. Patents

None reported.

8. Research Grants & Projects

Project Title	Role	Funding Agency	Duration
NIR Laser Triggered Thermo-Chemotherapy of Cancer (PAK-Norway Project)	Researcher	Pakistan Atomic Energy Commission (PAEC) / Norway	02/2016 – 12/2017
Optimization of Various Metal Nanoparticle Synthesis	Researcher	Nuclear Medicine, Oncology and Radiotherapy Institute (NORI), PAEC	08/2014 – 05/2016

9. Book Chapters

None reported.

10. Student Supervision

None reported.

11. Achievements & Awards

- 2nd position in poster presentation, 3rd International Nanomedicine Symposium (INS-2017), “Nanotheranostics: The Power of Nanomedicine,” NILOP, Islamabad, 21–24 November 2017.
- 3rd position in Pharm-D (Merit Certificate), Department of Pharmacy, University of Malakand.
- Scored 67 in GAT (General), 97th percentile.
- Scored 65 in GAT (Subject), 89th percentile.
- Higher Education Commission (HEC) indigenous scholarship for MPhil-leading-to-PhD, 2013–2021.
- Merit scholarships, Pharm-D, 2006 and 2007.
- Merit scholarships, Secondary School and Higher Secondary School.

Formal Training

- Contemporary Teaching Methodologies & Grant Writing, National Faculty Development Program, HEC-NAHE (National Academy of Higher Education), 25 July – 19 August 2022.

Symposia & Hands-on Training

- Organizer and participant, 3rd International Nanomedicine Symposium (INS-2017) & 2nd International Workshop on Experimental Biology (IWEB-2017), NILOP, Islamabad, 21–24 November 2017.
- Participant, four-day workshop on “Applied Pharmacokinetics,” NORI, Islamabad, 6–9 May 2016.
- 2nd International Symposium on Nanomedicine (INS-2016): Development, Testing and Its Applications, 1 March 2016.
- International Workshop on Experimental Biology: From Basic to Advance (IWEB), 24 March 2016.
- Guest speaker, One-day Symposium on Nanotechnology & Nanomedicine, Department of Biotechnology, University of Azad Jammu & Kashmir, 22 June 2016; also participant, 2nd International Workshop on Advanced Diagnostic Techniques, 26–29 February 2016.
- Organized the International Nanomedicines Symposium “Nanotheranostics: A New Concept in Imaging and Drug Delivery,” NORI, Islamabad, 26 November 2015.
- Participant, One-day Symposium on “Nanotechnology in Pakistan: Recent Trends and Development,” NIBGE, Pakistan, 16 December 2015.
- Organizer and participant, Hands-on Training Workshop on “Advanced Diagnostic Techniques” and Symposium on “Developing Scientific Writing Skills,” NORI, Islamabad, 28–31 March 2015.
- Participant, National Symposium on “Old Plants, New Remedies,” June 2008.

12. References

Dr. Jamshaid Ali Khan

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Dr. Sami Siraj

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