

IQRA SARWAR

📍 Rawalpindi, Pakistan

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SUMMARY

MPhil graduate in Molecular Medicine with research experience in human genetics, pharmacogenomics, stem cell therapeutics, and translational genomics. Skilled in wet lab molecular biology (DNA/RNA extraction, PCR, qPCR) and computational methods (molecular docking, in silico vaccine design, immunoinformatics). Experienced teaching demonstrator facilitating case-based learning and lab sessions.

Research Interests: Human Genetics • Pharmacogenomics • Precision Medicine • Molecular Diagnostics • In Silico Drug & Vaccine Design • Aquatic Toxicology Biomarkers

EDUCATION

MPhil in Molecular Medicine Jan 2024 – Jan 2026
National University of Medical Sciences (NUMS), Army Medical College Pakistan

- **Thesis:** Identification of SNP rs156697 in *GSTO2* associated with diabetic nephropathy patients of Pakistan.

Doctor of Pharmacy (Pharm D) Sep 2017 – Jul 2022
COMSATS University, Abbottabad Campus Pakistan

- **Thesis:** Pharmacotherapy of Stroke — prospective cross-sectional documentation of 100 prescriptions.

ACADEMIC EXPERIENCE

Demonstrator, Medical Education Feb 2024 – Present
Army Medical College (NUMS) Rawalpindi, Pakistan

- Facilitated case-based learning sessions, practical demonstrations, and student assessments, supporting clinical reasoning and interactive teaching.
- Assisted faculty in curriculum delivery, coordinated lab sessions, and evaluated student performance in written and practical exams.
- Designed interactive learning materials and helped integrate technology-enhanced teaching methods.

MPhil Researcher, Molecular Medicine Jan 2024 – Jan 2026
National University of Medical Sciences (NUMS) Pakistan

- Conducted molecular genetic experiments including DNA extraction, PCR, and allele-specific amplification.
- Utilized bioinformatics tools for SNP analysis, protein structure prediction, and variant impact assessment.
- Maintained structured documentation for experiments, datasets, and reporting.

Pharm D Researcher Sep 2021 – Jul 2022
COMSATS University Abbottabad, Pakistan

- Designed and conducted a prospective cross-sectional study documenting 100 prescriptions.
- Analyzed prescribing patterns, adherence to clinical guidelines, and patient outcomes.
- Gained hands-on experience in clinical data collection, analysis, and interpretation.

PROFESSIONAL EXPERIENCE

Clinical Research Associate Feb 2026 – Present
R3 Stem Cell

- Supporting stem cell research in neurodegenerative disorders, assessing how stem cell therapies may mitigate disease pathology and improve outcomes.
- Synthesizing literature and extracting study data (models/cohorts, dosing, biomarkers, efficacy endpoints, safety outcomes) into structured datasets.
- Collaborating with investigators to draft protocol-aligned summaries and maintaining documentation, traceability, and quality control.

Health Educator
Getz Pharma

Oct 2022 – Oct 2023
Rawalpindi, Pakistan

- Counseled patients on diabetes risk reduction, medication adherence, lifestyle, and diet.
- Performed and interpreted blood glucose tests; collaborated with multidisciplinary teams to improve patient outcomes.

Pharmacy Assistant
Life Care Medical Centre

Jan 2022 – Mar 2022
Shinkyari, Pakistan

- Verified prescriptions, prepared doses, educated patients, and managed pharmacy records.

PUBLICATIONS

1. Molecular Interactions and Biomarker Responses to Pharmaceutical Contaminants in Aquatic Species. *Aquatic Toxicology*. **Published.**
2. In Silico Vaccine Design Targeting BoA. *In Silico Research in Biomedicine*. **Published.**
3. In Silico Characterization of GSTO2 Gene Variants: Predicting Impact of nsSNPs. *In Silico Research in Biomedicine*. **Under peer review.**
4. Genetic Association of Glutathione S-Transferase Omega 2 (*GSTO2*) Polymorphism rs156697 with Diabetic Nephropathy in Pakistan. *Egyptian Journal of Medical Human Genetics* (Springer). **Under review.**
5. Association of the Atherogenic Index of Plasma with Glomerular Filtration Rate and Albuminuria: A Discriminatory Biomarker for Diabetic Nephropathy. *Journal of Rawalpindi Medical College*. **Under peer review.**

TRAINING & CERTIFICATIONS

- Fundamentals of Flow Cytometry — *Bio-Rad*, 2025
- Introduction to Genomic Technologies — *Johns Hopkins University*, 2025
- mRNAs as Medicines — *Moderna*, 2025
- Precision Medicine — *University of Geneva*, 2025
- Molecular Spectroscopy — *University of Manchester*, 2025
- Computational Drug Discovery and Design — *Biocode*, 2025
- Introduction to Cell Culture — *Universiti Sains Malaysia*, 2025
- Hands-on Workshop: Basic Molecular Techniques — *CREAM Lab*, 2025
- CRISPR-Cas9 Genome Editing of *Leishmania* — *COMSTECH*, 2021

TECHNICAL SKILLS

Wet Lab	DNA & RNA extraction, PCR & qPCR, allele-specific PCR, cell culture, flow cytometry, basic molecular cloning
Computational	Molecular docking, SNP analysis, immunoinformatics, reverse vaccinology, in silico pharmacokinetics, basic Python
Software	ChemDraw, PyMOL, GraphPad Prism, SPSS, ADMET tools, SNPstat, SnapGene, AutoDock, SwissADME, MEGA

LANGUAGES

English — Professional Proficiency (C1) • **Urdu** — Native

REFERENCES

Available upon request.