

CURRICULUM VITAE

Khyber Medical University, Peshawar

1. Personal Information

Name: Prof. Dr. Sami Siraj

Designation: Professor (Pharmacology)

Department: Institute of Pharmaceutical Sciences

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2. Academic Qualifications

Degree	Discipline	Institution	Year
Post-Doctoral Fellowship	Cancer Biology / Mitophagy Research	Institute of Zoology, Chinese Academy of Sciences, Beijing, China	Jul 2016 – May 2018
PhD (Doctor of Philosophy)	Pharmacology	China Pharmaceutical University, Nanjing, China	Sep 2003 – Jun 2008
MPhil (Master of Philosophy)	Molecular Biology	Center of Excellence in Molecular Biology, Punjab University, Lahore, Pakistan	Apr 2001 – Mar 2003
Bachelor of Pharmacy	Pharmacy	Faculty of Pharmacy, Gomal University, Dera Ismail Khan, Khyber Pakhtunkhwa, Pakistan	Sep 1995 – Jul 1999

Research Projects

- Post-Doc: Carcinogenesis mechanisms underlying hepatocellular carcinoma.
- Post-Doc: Epigenetic modulation of mitophagy.
- PhD: Anticancer effect of Valproic acid in cervical cancer and insights into the molecular mechanism.
- PhD: Expression and purification of antiangiogenic and anticancer peptide.
- MPhil: Genetic determinants of Thalassemia Intermedia.

3. Professional Experience

Position	Organization	Duration
Professor (Pharmacology)	Institute of Pharmaceutical Sciences, Khyber Medical University	Sep 2024 – Present
Director	Institute of Pharmaceutical Sciences, Khyber Medical University	Nov 2020 – Present
Associate Professor (Pharmacology)	Institute of Pharmaceutical Sciences, Khyber Medical University	Nov 2018 – Sep 2024
Assistant Professor (Pharmacology)	Institute of Basic Medical Sciences, Khyber Medical University	Feb 2011 – Nov 2018

Position	Organization	Duration
Assistant Professor (Pharmacology)	Department of Pharmacy, COMSATS University, Abbottabad, Pakistan	Sep 2008 – Feb 2011
Assistant Production Manager	Amson Pharmaceuticals, Islamabad	Oct 1999 – Mar 2001

4. Administrative Responsibilities

- Director, Institute of Pharmaceutical Sciences, Khyber Medical University (Nov 2020 – Present).
- Member, Academic Council, Khyber Medical University.
- Chairman, Technical Assessment Committee, Khyber Medical University.
- Member, Committee of Experts on Drug Research, Drug Regulatory Authority of Pakistan.
- Editor-in-Chief, Precision Medicine Communications (ISSN: 2958-583X Online, 2958-5821 Print), Roots Press.

5. Areas of Specialization / Research Interests

- Precision Medicine & Recombinant Therapeutics — investigating differential drug responses to enhance predictive and prognostic clinical outcomes.
- Pharmacogenomics — genetic determinants of drug response in cardiovascular disease, thalassemia, and lipid-lowering therapy.
- β -Thalassemia Genetics & Therapeutics — HbF augmentation therapy and genetic modifiers of treatment response.
- Precision Oncology — integrating big data and epigenetics to develop functional, personalized therapeutic strategies.
- Cardiovascular Pharmacogenetics — clopidogrel/ticagrelor dosing in acute coronary syndrome patients undergoing angioplasty.

Technical Skills & Competencies

- Digital Literacy and Adaptability: LMS platforms (Moodle, Blackboard), virtual lab environments, office suites, statistical packages, and image-processing software for biology (e.g., Inkscape).
- Languages: English, Urdu, and Mandarin (Chinese).

6. Research Collaborations

- Anhui HCBiotech Ltd., Hefei Yaogu Industrial Park, G60 Science and Technology Innovation Corridor, Hefei City, Anhui Province, China.
- Center for Regenerative Medicine & Stem Cell Research, Aga Khan University.
- Institute of Biomedical & Genetic Engineering (IBG&E), KRL Hospital, Islamabad, Pakistan.
- Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences, Suzhou, China.
- Department of Biotechnology, COMSATS Institute of Information Technology, Abbottabad.

7. Publications

Summary

Total Publications: 75

Full List of Publications

- Iqbal W, Razaq A, Shah ST, Tariq SA, Rahim S, Siraj S. Impact of gender on long-term clinical outcomes and major adverse cardiovascular events in patients undergoing percutaneous coronary intervention receiving clopidogrel therapy: A follow-up study. *Naunyn-Schmiedeberg's Archives of Pharmacology*. 2026 Feb 13:1-8.
- Ur Rahman I, Shahid M, Khan MT, Ahmed N, Ahmad S, Muhammad A, Khan SA, Saboor A, Khan MT, Siraj S. Association of CYP2C19 gene single nucleotide polymorphisms (rs12248560 and rs4244285) with response to thalidomide in transfusion dependent β -thalassemia patients – a 12-months follow-up study. *Pharmacogenomics*. 2026 Jan 31:1-8.
- Ali HZ, Jahan S, Ilahi L, Siraj S, Zakria M, Ullah N, Ikram M, Khan AU, Khan M, Shah FA, Muhammad H. Ambroxol's Role in PTZ-Induced Anxiety-Like Conditions in Mice: Targeting Neuroinflammation and Oxidative Stress via In Vivo and In Silico Approaches. *Molecular Neurobiology*. 2026 Jan;63(1):162.
- Ahmad S, Siraj S, Rahman IU, Shahid M, Shaheen G, Aleem U. Association of ABCC2 gene polymorphism (rs3740066) with thalidomide-induced peripheral neuropathy in transfusion-dependent β -thalassemia patients: a case-control study from Pakistan. *Journal of Saidu Medical College*. 2025 Nov 4;15(4):693-701.
- Hajira B, Sehar B, Fakhrunisa, Siraj S, Malik MO, Naqeeb H, Almajwal AM, AlBlooshi S, Hasan H, Alam I, Zeb F. Impact of high-protein, low-calorie diet on anthropometric indices, glycation, and inflammation associated with the fat mass and obesity (FTO) gene among individuals with overweight/obesity. *Frontiers in Nutrition*. 2025 Oct 20;12:1619543.
- Bawazir WM, Khan MI, Hazzazi MS, Basabrain AA, Khan MT, Siraj S, Almashjary MN, Radhwi O, Harakeh S, Yousafzai YM. Genetic modifiers of response to thalidomide in transfusion-dependent beta-thalassemia patients: a whole-exome sequence analysis. *PeerJ*. 2025 Oct 7;13:e20038.
- Razaq A, Iqbal W, Shah ST, Abdur Rauf M, Aldekhail NM, Van Nieuwerburgh F, Siraj S. Impact of ABCB1 gene polymorphism on clopidogrel plasma concentration and cardiovascular events in post-PCI patients. *Pharmacogenomics*. 2025 Jul 21:1-8.
- Naqeeb H, Sehar B, Siraj S, Almajwal AM, Hajira B, Faris M, AlBlooshi S, Alsubaie ASR, Safdar M, Alam I, Zeb F. Association of anthropometric indices with rs9939609 FTO gene polymorphism among overweight/obese women with breast cancer: a case-control study. *Frontiers in Nutrition*. 2025 Jun 24;12:1548340.
- Rahman IU, Khan MTM, Ali Z, Ahmad S, Shahid M, Zafar S, Aamir FF, Khan I, Ali M, Jelani M, Khan K, Ahmad N, Yousafzai Y, Mian AA, Siraj S. Thalidomide confers therapeutic benefit in beta thalassemia patients by enhancing hemoglobin and hematopoietic gene expression: A non-randomized clinical trial. *Blood Cells, Molecules and Diseases*. 2025 Jul-Sep;113-114:102936.
- Hu J, Sa X, Yang Y, Han Y, Wu J, Sun M, Shafi S, Ahmad N, Siraj S, Yang J, Zhou Y. Multi-transcriptomics reveals niche-specific expression programs and endothelial cells in glioblastoma. *Journal of Translational Medicine*. 2025 Dec;23(1):1-3.
- Jahan S, Ikram M, Siraj S, Ullah S, Zakria M, Ahmad N. Emodin, a Potent Anthraquinone, Mitigates MPTP-Induced Parkinson's Disease Pathology by Regulating Nrf2 and Its Downstream Targets: In Silico and In Vivo Approach. *Molecular Neurobiology*. 2025 Feb 20:1-8.
- Zhao Y, Zhou X, Hong L, Yao J, Pan J, Shafi S, Siraj S, Ahmad N, Liu J, Zhao R, Sun M. Morusin regulates the migration of M2 macrophages and GBM cells through the CCL4-CCR5 axis. *International Immunopharmacology*. 2025;147:113915.
- Bazai FK, Hassan MU, Tayyab H, Naudhani S, Siraj S, Tariq M, et al. Targeted Sequencing of HEXA Gene Shows Missense Substitution (p.Arg499His) in a Large Pakistani Family with Tay-Sachs Disease. *Cytology and Genetics*. 2024;58(5):486-92.
- Mumtaz MN, Irfan M, Siraj S, Khan A, Khan H, Imran M, Khan IA, Khan A. Whole-genome sequencing of extensively drug-resistant *Salmonella enterica* serovar Typhi clinical isolates from the Peshawar region of Pakistan. *Journal of Infection and Public Health*. 2023 Dec 6;17(2):271-282.

- Hussain A, Zakria M, Ali I, Tariq SA, Hussain A, Siraj S. Pattern of dyslipidemia and associated factors in coronary artery disease patients in Khyber Pakhtunkhwa: A cross-sectional secondary data analysis. *Pakistan Journal of Medical Sciences*. 2023 Sep-Oct;39(5):1416-1421.
- Ayaz M, Muzammal M, Siraj S, Fatima S, Fatima S, Khan J, Khan MA, Shah MI, Rehman ZU, Wei L. Genetic basis of β -thalassemia in families of Pashtun ethnicity in Dera Ismail Khan district of Khyber Pakhtunkhwa province, Pakistan. *Expert Review of Hematology*. 2023 Jul-Dec;16(9):693-699.
- Zakria M, Hussain A, Ahmad N, Ahmed N, Rauf MA, Siraj S. The lipid-lowering efficacy of rosuvastatin is associated with variations in SLCO1B1: a 12-month prospective cohort study. *European Review for Medical and Pharmacological Sciences*. 2023 May;27(10):4708-4717.
- Hassan FU, Aljeldah MM, Fozia F, Hussain M, Khan TA, Siraj S, Ahmad I, Qasim M, Khan I, Giesy JP, Aboul-Soud MAM. Whole Exome Sequence Analysis for Inborn Errors of IL-12/IFN- γ Axis in Patient with Recurrent Typhoid Fever. *BioMed Research International*. 2023 Feb 17;2023:1761283.
- Majid A, Khan S, Siraj S, Haleem S, ul Haq N, Ullah R, Ali EA, Mustafa A, Hussain H, Sohaib M. Emergence of resistance against direct acting antivirals in chronic HCV patients: A real-world study. *Saudi Journal of Biological Sciences*. 2022;29(4):2613-2619.
- Aziz A, Shah M, Siraj S, Iqbal W, Jan A, Khan I, Ahmed S, Vitale SG, Angioni S. Association of vitamin D deficiency and vitamin D receptor (VDR) gene single-nucleotide polymorphism (rs7975232) with risk of preeclampsia. *Gynecological Endocrinology*. 2022:1-6.
- Hussain A, Zakria M, Tariq SA, Siraj S, Khan A, Khattak BG, Siddiqui F, Kakar M. Simultaneous Analysis of Atorvastatin and Rosuvastatin by LC-MS: Development, Validation, and Application of the Proposed Method to Analysis of Atorvastatin Pharmacokinetics in Pakistani Population. *Pharmaceutical Chemistry Journal*. 2022;56(8):1149-1156.
- Hussain A, Zakria M, Tariq SA, Siraj S, Khan A, Khattak BG, Siddiqui F, Kakar M, Ahmad N, Qayum S, Jameel A, Ali A, Ali J, Yousafzai YM. Clinical and laboratory relevance of JAK2 V617F and BCR-ABL co-existence in Philadelphia positive CML patients. *Pakistan Journal of Pharmaceutical Sciences*. 2021 Nov;34(6 Suppl):2289-2295.
- Ahmed S, Gul S, Siraj S, Hussain A, Sheikh FS, Shah SU, Janjua K, Khan H, Hamdard MH. Antiplatelet response to clopidogrel is associated with a haplotype in CYP2C19 gene in Pakistani patients. *Scientific Reports*. 2022 Apr 13;12(1):6171.
- Hizbullah, Ahmed S, Noor Mumtaz M, Zulfiqar Z, Amir Hamza S, Siraj S, et al. Genetic variations in drug-metabolizing enzyme CYP2C9 among major ethnic groups of Pakistani population. *Gene*. 2020;746:144659.
- Zhang W, Ma Q, Siraj S, Ney PA, Liu J, Liao X, Yuan Y, Li W, Liu L, Chen Q. Nix-mediated mitophagy regulates platelet activation and life span. *Blood Advances*. 2019 Aug 13;3(15):2342-54.
- Liu D, Wu H, Wang C, Li Y, Tian H, Siraj S, Sehgal SA, Wang X, Wang J, Shang Y, Jiang Z. STING directly activates autophagy to tune the innate immune response.
- Li W, Li Y, Siraj S, Jin H, Fan Y, Yang X, Huang X, Wang X, Wang J, Liu L, Du L, Chen Q. FUNDC1-mediated mitophagy suppresses hepatocarcinogenesis by inhibition of inflammasome activation. *Hepatology*. 2018 Jul 27.
- Chen Z, Liu L, Cheng Q, Li Y, Wu H, Zhang W, Wang Y, Sehgal SA, Siraj S, Wang X, Wang J. Mitochondrial E3 ligase MARCH5 regulates FUNDC1 to fine-tune hypoxic mitophagy. *EMBO Reports*. 2017 Jan 19:e201643309.
- Yasmin R, Siraj S, Hassan A, Khan AR, Abbasi R, Ahmad N. Epigenetic Regulation of Inflammatory Cytokines and Associated Genes in Human Malignancies. *Mediators of Inflammation*. 2015;2015: Article ID 201703.
- Khan J, Ahmad N, Siraj S, Hoti N. Genetic Determinants of thalassemia intermedia in Pakistan. *Hemoglobin*. Posted online 24 Feb 2015.

- Xu HM, Yin R, Chen L, Siraj S, Huang X, Wang M, Fang H, Wang Y. An RGD-Modified Endostatin-Derived Synthetic Peptide Shows Antitumor Activity in Vivo. *Bioconjugate Chemistry*. 2008;19(10):1980-1986.
- Siraj S, Hoti N, Xu HM, Shen Z, Huang X. Valproic Acid Inhibits the Growth of Cervical Cancer both In Vitro and In Vivo. *Journal of Biochemistry*. 2008;144:357-362.

8. Selected Publications

- Iqbal W, et al. Impact of gender on long-term clinical outcomes and major adverse cardiovascular events in patients undergoing percutaneous coronary intervention receiving clopidogrel therapy: A follow-up study. *Naunyn-Schmiedeberg's Archives of Pharmacology*. 2026.
- Ur Rahman I, et al. Association of CYP2C19 gene single nucleotide polymorphisms with response to thalidomide in transfusion dependent β -thalassemia patients. *Pharmacogenomics*. 2026.
- Bawazir WM, et al. Genetic modifiers of response to thalidomide in transfusion-dependent beta-thalassemia patients: a whole-exome sequence analysis. *PeerJ*. 2025;13:e20038.
- Rahman IU, et al. Thalidomide confers therapeutic benefit in beta thalassemia patients by enhancing hemoglobin and hematopoietic gene expression: A non-randomized clinical trial. *Blood Cells, Molecules and Diseases*. 2025;113-114:102936.
- Li W, et al. FUNDC1-mediated mitophagy suppresses hepatocarcinogenesis by inhibition of inflammasome activation. *Hepatology*. 2018.

9. Research Grants & Projects

Project Title	Funding Agency	Amount	Status
Epigenetic Profiling of Mismatch Repair Genes in Oral Squamous Cell Cancer Patients and Chronic Snuff Users along with DNA-demethylation Based Treatment Response in In Vitro Model	Higher Education Commission, Pakistan	6.5 Million PKR	Ongoing (Aug 2023 – Present)
Optimization and Implementation of HbF Augmentation Therapy in Transfusion Dependent β -Thalassemia Patients in Thalassemia Centers of Khyber Pakhtunkhwa [Clinical Trial]	Khyber Medical University, Peshawar (Research Students' Grants)	Not specified	Ongoing (Apr 2020 – Present)
Safety and Efficacy of Pharmacogenetic-guided Dosing of Clopidogrel or Ticagrelor in Acute Coronary Syndrome Patients undergoing Angioplasty [Clinical Trial]	Khyber Medical University, Peshawar (Research Students' Grants)	Not specified	Ongoing (Jun 2022 – Present)
Statins Dilemma: Efficacy and Adverse Effects of Statins in Association with the Genetic Makeup of Khyber Pakhtunkhwa Population	Higher Education Commission, Pakistan	2.0 Million PKR	Completed (Jun 2019 – Jul 2023)

10. Student Supervision

- Approved MPhil and PhD Supervisor, Higher Education Commission of Pakistan.
- 22 MPhil and 1 PhD students graduated under supervision.
- 5 MPhil and 5 PhD students currently under supervision.

11. Licenses, Recognitions & Awards

- Best University Teacher Award (KMU-HEC), Year 2021–2022.
- Registered Pharmacist, Pakistan Pharmacy Council.
- Approved Masters and PhD Supervisor, Higher Education Commission of Pakistan.

12. Teaching Experience

- Professor (Pharmacology), Institute of Pharmaceutical Sciences, Khyber Medical University (Sep 2024 – Present).
- Associate Professor (Pharmacology), Institute of Pharmaceutical Sciences, Khyber Medical University (Nov 2018 – Sep 2024).
- Assistant Professor (Pharmacology), Institute of Basic Medical Sciences, Khyber Medical University (Feb 2011 – Nov 2018).
- Assistant Professor (Pharmacology), Department of Pharmacy, COMSATS University, Abbottabad (Sep 2008 – Feb 2011).

13. Conferences, Workshops & Trainings

Selected International Conferences, Seminars & Workshops

- Guest Speaker/Resource Person, “Genomics and Precision Medicine,” Certificate in Genetic Counseling (CGS), Khyber Medical University, Peshawar, Pakistan, 13 Feb 2026.
- Guest Speaker, “Old Drug, New Hope: Clinical Efficacy and Molecular Insights of Thalidomide in β -Thalassemia,” Regenerative Medicine and Stem Cell Conference 2026, Aga Khan University, Karachi, Pakistan, 6–7 Feb 2026.
- Guest Speaker, “Practical Insights into AI, Omics Big Data, and Precision Medicine,” 4th International Conference on Recent Innovations in Pharmaceutical Sciences, Riphah International University, Islamabad, Pakistan, 5–6 Nov 2025.
- Guest Speaker, “Disease Amelioration by HbF-Induction in Thalassemia Major – A Single-Center Nonrandomized Clinical Trial,” International Clinical Trials Day, Khyber Medical College, Peshawar, Pakistan, 29 May 2025.
- Keynote Speaker, “From DNA to Dose – Pharmacogenomics in Modern Healthcare,” Grand CPC on “Pharmacogenomics: a multidisciplinary journey into personalized medicine,” Khyber Medical College, Peshawar, Pakistan, 27 May 2025.
- Resource Person, “Pharmacogenomics and Precision Medicine,” Molecular Diagnostics of Human Genetic Disorders (3-day Workshop), Khyber Medical University, Peshawar, Pakistan, 12 Feb 2025.
- Speaker, “Health Hazards of Pharmaceutical Manufacturing–Distribution and Prescription,” 2nd National Workshop on Chem-Bio Safety & Security Risk Management, Institute of Biomedical & Genetic Engineering, Islamabad, Pakistan, 3 Dec 2024.
- Participant, “Conduct and Management of Randomized Controlled Trials” (Workshop), Global Mental Health Symposium, Ramada Hotel, Islamabad/Peshawar, Pakistan, 2–3 Dec 2024.
- Panelist, “Antimicrobial Drug Resistance,” Illumina Summit: “Enhancing One Health in Pakistan through Genomic Surveillance,” Pearl Continental Hotel, Lahore, Pakistan, 16 Nov 2024.
- Speaker, “Pharmacogenomics,” Genomics Pre-Summit: “Applications of Genomics in Biomedical Research,” Islamic College University, Peshawar, Pakistan, 30 Oct 2024.
- Speaker, “Precision Medicine,” 2nd International Conference on Advances in Allied Health Sciences, University of Lahore, Lahore, Pakistan, 24 Oct 2024.

14. Community Services / Outreach Activities

Not specified in source CV.

15. References

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