
SABA KHURRAM

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Assistant Professor/Research Scientist (Pharmacology)

Summary

A multidisciplinary Research Scientist and academician, Bachelor in Pharmacy, and Ph.D. in Pharmacology with experience of working in Neuropharmacology, from in-vitro/in vivo models to statistical analysis. Experienced in Pharmacology, Molecular Biology and Cellular Assays. Proficient in experimental design and troubleshooting. Goal-oriented team player able to collaborate with scientists from different disciplines and nationalities. Experienced in mentoring pre-graduate, master and Ph.D. students. Can communicate in English and Urdu.

Professional Experience

2019-02 - Present

Assistant Professor

Department of Pharmacology, Faculty of Pharmacy, Ziauddin Medical University.

- Taught Pharmacology, cancer chemotherapy and research methodology, Clinical Pharmacy in pharmacy program. Supervising Masters and Doctoral program students in their research and thesis work and thesis evaluation.
- Responsible for organizing the seminars and continuing the research project based on neuroscience, natural product research and pharmacological preclinical and Molecular studies.
- Responsible to teach and conduct research on Pharmacology/Neuroscience/stem cell therapy, Behavioral Animal models and cancer research in Pharmacy graduate (Pharm-D) and postgraduate level programmes (M.Phil and PhD). Also performed administrative functions such as QEC Coordinator (2020, March-2023, March), DED coordinator (2020-2023), PG Coordinator (2021-2024 March) and Member of Animal Ethics Committee, Ziauddin University and Curriculum design (Member of Board of studies of Pharmacology department).
- **Managing Editor** and coordinator of *Ziauddin Journal of Pharmaceutical Research*.

2018-07 - 2019-01

Research Associate

HEJ Research Institute of Chemistry, ICCBS, University of Karachi

- Trained in different microbiological techniques using mice models/ cell lines.
- Designed and develop the animal models of septicemia and peritonitis using S -aureus. To develop the novel agents against Multi drug resistant infections.
- Testing and validation of new drug molecules as an antibiotic against S-aureus. Pharmacokinetic studies of antibiotics/ novel drug candidates.

2013-07 - 2018-01

Senior Research Fellow

HEJ Research Institute of Chemistry, ICCBS, University of Karachi

- Performed the proliferation/ cytotoxicity of novel molecules as neurogenic agents on primary neuronal cells.
- Tested and validated novel compounds on various cancer cell lines (worked with various antibodies and molecular/ genetic markers).
- Perform all molecular biology techniques using neuronal cultures, human cancer cell lines and micro-organism cultures.

2010-02 - 2013-06

Clinical/Hospital Pharmacist

Nadeem Medical Center

- In patient or ambulatory care services Pharmacy
- Immunization services Cytotoxic Drug admixture
- Total parenteral nutrition

Education

2013 - 2018

Ph.D. in Pharmacology

*HEJ Research Institute of Chemistry, International center for Chemical and Biological Sciences,
Faculty of Pharmacy, University of Karachi.*

2003 - 2007

Bachelor of Pharmacy

University of Karachi, Faculty of Pharmacy.

Skills

Molecular Biology

- ELISA
- RTPCR
- Western Blotting
- Immunocytochemistry
- Immunohistochemistry
- Gel Electrophoreses
- RNA/ DNA Isolation
- Apoptosis studies

Cell Culture

- Isolation of Neurons/ Primary culture of hippocampal / cortical cells Isolation of Stem cells/Progenitors (BMSCs)
- Culturing of cancer cell lines HT-29, MCF-7, U-87, neuroblastoma.
- Development of In vitro Ischemic Models of neuronal cultures

Clinical research

- Diabetes (Type 1)
- COVID 19

List of publications, Patent and Abstracts

- 1) **Saba Majeed**, Aisha aziz, Shabana simjee, (2020).Neuronal transcription program induced in coculture of bone marrow derived mesenchymal cells and hippocampal cells. **Heliyon**, 6 (2020) e05083. **Impact factor: 3.98**
- 2) Aisha Aziz, Farina Hanif, **Saba Majeed**, Kanwal Iftikhar, Shabana Usman Simjee (2019). N-(2-hydroxyphenyl) acetamide (NA-2) elicits potent antitumor effect against human breast cancer cell line (MCF-7). **Toxicology In Vitro** 60: 296-304. **Impact factor: 3.25**
- 3) R Farheen, BS Siddiqui, I Mahmood, SU Simjee, **S Majeed** (2016), GC, GC-MS Analysis of Lipophilic Fractions of Aerial Parts of Fagonia indica Burm. f. Showing Growth Inhibitory Effect on HT 29 Colorectal Cancer Cells. **J. Chem Soc Pak.** 38 (4): 717. **Impact factor: 0.6**
- 4) Farheena R, Siddiqui BS, Mahmooda I, Simjee SU, **Majeed S.** (2015). Triterpenoids and triterpenoid saponins from the aerial parts of Fagonia indica Burm. **Phytochem Letters** 13: 256–261. **Impact factor: 1.6**
- 5) M. M. Ali, M. T. Baig, A. Hum, S. Ibrahim, S. A. Khane, R. Fatima, **S. Majeed** , A. Rawatb, H. Soomro, M. Lodhi, A. Jabeen, N. Syed and A. Huda.(2021). Effect of Agaricus blazei Murill on exploratory behavior of mice-model. **Brazilian Journal of Biology** vol. 84, e252575. **Impact factor: 1.5**
- 6) Aisha Aziz , Marium Sarfaraz , **Saba Majeed ***, Madiha Maboos , Qurratul Ain Leghari and Mahrukh Khurshid. (2022). Evaluation of Disease-related Characteristics in COVID-19 Infected Population of Karachi, Pakistan “**Journal of Pharmaceutical Research International** “34(44B): 50-58.
- 7) Anum arif, **Saba majeed***, Shabana usman simjee, Marium Sarfaraz, Sadia Suri kashif, Muneeza lodhi, Najeeb khatian, Aisha aziz , Hiba kanwal majeed.(2022) .Evaluation of anti-inflammatory, antioxidant, and xanthine oxidase inhibitory potential of n-(2-hydroxy phenyl) acetamide. **Pak-Euro Journal of Medical and Life Sciences**. Vol. 5 No. 2, 2022: pp. 309-318.
- 8) Qurratul-ain Leghari, Faiza Akhtar, Shahzad Aslam, **Saba Majeed*** Saira Shanaz, Rabia Bushra, Fouzia Akmal, Sharmeen Bawani. (2022).Screening and Prevalence study of Diabetic Retinopathy in Pakistan: A Cross Sectional Study. **Pak-Euro Journal of Medical and Life Sciences**. Vol. 5 No. 2, 2022.
- 9) Muneeza lodhi, **Saba Majeed***, rehan Imad, Shabana Usman Simjee. Anti-neuroinflammatory and neuroprotective efficacy of n-(2-hydroxy phenyl) acetamide in response to LPS-stimulated primary cell culture. **Journal of Tianjin University Science and Technology**. Vol. 56, No.8, 2023. **Impact factor: 0.3**
- 10) **Saba Majeed***, Hiba Kanwal, Qurratulain leghari, Asgher Ali, (2023). Mangiferin produces proneurogenic and neuroprotective effect by attenuating H₂O₂ induced oxidative stress in primary rat hippocampal NPCs. **Journal of survey in Fisheries Sciences**, Vol No. 10(2)1-6. **Impact factor: 0.69**
- 11) Sadia Suri, Saira Saeed Khan; Sadaf Naeem, **Saba Majeed**, Nuzhat Sultana, Sumaira khadim, Rafeeq Alam Khan (Late). A two generational reproductive study to assess the effects of *Juglans regia* on reproductive developments of male and female rats, **Brazilian journal of Biology**, Vol 84, 2024. **Impact factor: 1.71**
- 12) **Saba Majeed***, Aisha aziz, Kanwal iftikar, Shabana Usman simjee. (2024) Neurogenin-2 induced neuronal differentiation in co-cultured bone marrow stromal and neonatal cortical cells. **JPMA** 74: S-68 (Supple-2). <https://doi.org/10.47391/JPMA-DUHS-S14>. **Impact factor: 0.71**
- 13) Khalid, H., Raza, A., Khawaja, D. A., Ayaz, M., **Majeed, S.**, & Qamar, N. (2023). A Research study on the carnal evaluation and early domino effect of routinely ventilated children in Fatima memorial hospital Lahore. **NeuroQuantology**, 21(6), 1033. **Impact factor: 1.58**

- 14) Suri, Sadia, Saira Saeed Khan, Sadaf Naeem, Zeb Un Nisa, Nausheen Alam, **Saba Majeed**, Suresh Kumar, and Rafeeq Alam Khan. "The beneficial effect of Allium Cepa bulb extract on reproduction of rats; A two-generation study on fecundity and sex hormones." **Plos one** 19, no. 3 (2024): e0294999. **Impact factor: 3.75**

In Process Articles:

- 15) Saba Majeed*, Bina Siddiqui, Rehan Imad. D-Pinitol inhibits LPS induced neuroinflammation by suppressing the production pro inflammatory cytokines in dose dependent manner. **Natural product research**. (under first revision).
- 16) Zahid Shehzad Siddiqui , Saba Majeed*, Shagufta Sikander, Hiba Kanwal , Sadia Kashif , Tauseef ahmed. Comparative analysis of clinical safety and efficacy of insulin glargine & aspart versus nph & regular insulin régime in type 1 diabetic patients of Pakistan. *Journal of Population therapeutics and Clinical Pharmacology*. (Accepted)

- *Denotes as corresponding author

Published Abstracts

- **Saba Majeed**, Aisha Aziz, Shabana Usman Simjee. "Induction of Neuronal Transcription Program in BMSCs using Co-Culturing Technique; As Novel Therapeutic Approach for Neural Stem Cell Therapy and Regeneration". **International Conference on Biomedical Sciences, Bridging basic and translational Research, 20-21 March, 2023** at Institute of Biomedical Sciences, Dow university of Health Sciences, OJHA campus. (**Oral Presentation**)
- K Rafi, S Majeed , SU Simjee (2015), Suppression of cell stimulants induced Ab production in Primary Neuronal and SH-SY5Y cells with Acetamide analogs, in **IBRO (International Brain Research Organisation)** at Iran.
- S Majeed, A Aziz, F Shaheen , SU Simjee (2016), In vitro hippocampal and cortical neuronal modulation by a novel dianthine derivatives, in **14th Eurasia Conference on Chemical Sciences (EuAsC 2S-14) in Dec, 15-18,2016** at Karachi , Pakistan.

Conferences and Certifications:

- 8th International symposium-cum-training course on Molecular Medicine and Drug Research. November 27-30, 2023
- Certificate of Course /Workshop on Scientific Research Writing
- Certificate of participation in 14th Asian Symposium On Medicinal Plants,Spices and Other Natural Products(ASOMPS)
- Certificate course on animal handling and safety.
- Certificate course on Epigenetics.
- Participation Certificate in IYucr summit meeting on Crystallography.
- Certificate course on cancer biology.
- Certificate of participation in Workshop on Gene Cloning Techniques.
- Certificate of participation in 5th MMDR conference and Training course on Molecular Medicine and Drug research at Dr panjwani center For Molecular Medicine and Drug Research(2015)ICCBS.
- 4th Pak-France Bi –national Workshop on Drug discovery and Molecular Medicine (2015) ICCBS.
- 14thEurasia Conference on Chemical Sciences (EuAsC 2S-14) in Dec, 15-18, 2016 at Karachi , Pakistan.

Book Chapter

Chapter name: Stem Cells Based Therapies for Neurological Disorders, in the book "**DISCOVERING THE MIRACLES OF STEM CELL**". (Accepted, 2024). (Somia Gul, Saba Majeed, Aisha Aziz)

Scientific Achievements

PATENTS

US – Patent: Isoxylitones Mediated Neurogenesis; Atta-ur-Rahman, M. Iqbal Choudhary, Farzana Shaheen, Shabana Usman Simjee, **Saba Majeed**, Anila Bashir, and Kanwal Iftikhar; **US-Patent Publication No. 2019/0290598 A1, Publication Date: 09/26/2019, US-Patent Application No. 15/934,539.**

Pakistan Patent: Protective effect of Iridoid glycoside acetates from *Nyctanthes Arbor-Tristis* linn. against oxidative stress induced neurotoxicity in primary rat cortical cells: Bina Shaheen Siddiqui, Tale asana, Saba Majeed, Sabira Begum. (Submitted for Pakistan Patent)

Projects:

"**Clinical Safety, Efficacy and Cost effectiveness of Aspart and Glargine Insulin versus NPH and Regular insulin in Type 1 diabetic Patients**". (Submitted to NIH) reference number "SG-23/R4-144

Students Supervised:

Anum Arif- M. Phil in Pharmacology awarded 2022

Muneeza Lodhi - Ph. D degree awarded in 2024

Zahid Shehzad: Ph. D in Pharmacology in Progress (at thesis submission)

SadaF Murree; M. Phil in Pharmacology in Progress

AWARD(s)

First Prize winner in DICE Innovation and Entrepreneurship Mega Event 2016 at NUST Islamabad, for the project entitled "Heart Attack Detection Device" participating as a Team Leader.

REFERENCES

• SHABAN USMAN SIMJEE

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Abidin, Terengganu, Malaysia.
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• ASMAT SALIM

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کراچی یونیورسٹی

University of Karachi

FACULTY OF PHARMACY & PHARMACEUTICAL SCIENCES
Doctor of Philosophy

کلیا اذنیہ سازی دارمیاتی علمیں
دکتور فلسفہ

Whereas SABA MAJEED D/O
ABDUL MAJEED

منجیل صابا بنت عماد الہنجیل

has successfully pursued and completed a course of research studies in the Department of PHARMACOLOGY in the Faculty of PHARMACY & PHARMACEUTICAL SCIENCES and has been examined in the year 2018 and found qualified for the Degree of Doctor of Philosophy, he/she has been admitted to the Degree aforementioned.

وارمیاتی علمیں
دوبہ سار کے شعبہ علم افعال الادویہ میں تحقیقات کی تربیت کیامانی
تا تھ مکمل کی ہے اور دکتور فلسفہ کے امتحان منعقدہ ۲۰۱۸
یاب ہونے پر اس درجہ کے اہل قرار پئے/پائی ہیں۔ لہذا ان کو
ال درجہ پر فارغ کیا گیا۔

Registrar

محمد اجمل خاں
Vice-Chancellor شیخ الجامہ

بہ عمار

Dated Karachi, the 21st DECEMBER 2018

کراچی، بتاریخ ۲۱ دسمبر ۲۰۱۸

**International Center for Chemical and
Biological Sciences**
University of Karachi, Karachi-75270, Pakistan



13th June 2023

JOB EXPERIENCE LETTER

I have known Saba Majeed since July 2013 when she joined my laboratory as a Research Fellow in Pharmacology. In November 2018, she successfully completed her assigned research project and thereafter submitted and defended her thesis. Based on successful defense of her research work, Saba was awarded PhD degree in year 2018. Saba is technically competent with excellent performance. Her technical competence is also reflected well from the execution of the study, data collection and analysis, to presentation. Saba always put in extra hours in her work and has always met her specified deadlines that we set to execute her assigned task. I found her exceptionally enthusiastic with sufficient motivation to excel in her career. While working towards her thesis, Saba have already mastered in various techniques such as Cell Culturing, Immunocytochemistry, Immunohistochemistry, PCR-Analysis (both classical and real-time PCR), *in vivo* animal work, and imaging. Based upon this, I rate her skills competent.

Dr. Shabana U. Simjee
Professor
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Teaching Philosophy

Saba Khurram, PharmD, Ph.D (Pharmacology)

Assistant Professor of Pharmacology,

Faculty of Pharmacy,

Ziauddin University.

The goal of my teaching is to nurture students who are seekers for knowledge and want to practice their learning in everyday lives within the profession of pharmacy. To develop the competence is of fundamental importance in the profession of pharmacy. The pharmacist takes the oath which states that ‘I will apply my knowledge, experience, and skills to the best of my ability to assure optimal outcomes for all patients and humanity’. Inside this statement is the implication that our education as pharmacists should not be merely for our own knowledge, but for the provision of health care system. As a teacher of future pharmacists, my goal is to teach students meaningful skills that help them to develop their knowledge base, give them confidence to share their knowledge, strengthen their communication skills, and be a pillar for health care and research system, patients. Above all, I hope that humanity will be better served through my teaching. In teaching, I not only raise the issue of value, but I also aim at putting the material into an applicable and relevant context with direct implications for patient safety and care. I applied these principles in the Practical Based Pharmacy Pharm D class where I had the opportunity to lead class discussions on study methods and evaluating new concepts relevant to drug discovery and their novel mechanisms. Reminding students of the role they play as gatekeepers once they are out in the real world made them more engaged in learning the content and utilize their critical thinking skills. While study design and methods might not have appealed to some, students were able to grasp complicated concepts and gained the skills necessary to make their own interpretation based on the evidence presented to them in a paper.

My teaching style is casual, light-hearted and intrusive. I enjoy teaching and I want students to enjoy their time in the classroom with me as well. I want to learn from my students just as they want to learn more from me. As I hope to make my students more knowledgeable through my teaching, I hope to learn more about myself through my time with them. This co-dependent relationship with my students drives my desire to teach and facilitate discussion with my learners. I desire to instill within my students a desire to learn for a lifetime. What many young learners don't fully grasp is that learning only gets harder with time. I hope to foster the desire and thirst for learning within my students so that, as the age and grow within the profession, they change and evolve as their learning increases. Change is inevitable in the profession of pharmacy. And the profession students know today will not be the profession students practice within in the decades to come.

Regarding my special subject expertise in pharmacology, I love to teach all basic concepts, mechanisms, new approaches and treatment strategies in framework of curriculum as well as adding new advances in Pharmacology. Being a researcher, I would like to discover and deliver research skills into my students, as

during laboratory work we also introduce small research projects to students where students are free to design the models and testing API as well as novel molecules using in animal and in vitro models.

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