



## Dr. Jamaluddin Shaikh

Associate Professor and Quality officer

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Time at UoN: Since 2010

**Teaching Philosophy** My personal teaching philosophy is composed of the following points:

- As a teacher it is my duty to challenge and support students according to their individual strengths and needs. I pre-assess students' daily progress to determine the instruction they need and modify lessons and assignments accordingly. Furthermore, I provide varied opportunities for students to communicate and use their knowledge.
- Students are naturally curious. They wonder about and are intrigued by the world around them. Students learn best when they construct their own knowledge through exploration and discussion. Classroom discussion is an essential part of student exploration, as this is the space where students use language to synthesize their knowledge and make them public.
- It is crucial that each student is publicly recognized for his and her strengths and contributions and given credibility within the classroom. This makes the classroom a safe space where students can publicly make brilliant discoveries.
- A teacher is always a student. The classroom should be fresh and exciting, a place to try and adapt new ideas. Most importantly, through personal reflection and student feedback, I am to refine my teaching practice on a daily basis.

**Research Interests:** Brief description of research expertise and research interests: I use a multidisciplinary approach to evaluate the effects of drugs on the brain. Much of my current research focuses on the development of new drugs for the treatment of neurological and psychiatric disorders. Recently, we developed new classes of drugs with powerful anti-cocaine and anti-methamphetamine actions in animals. Much of research is now focused on optimizing these compounds, and identifying the cellular and molecular mechanisms through which they exert their beneficial actions. In addition, we recently developed and characterized a new class of compounds that changes animal behavior and neuronal structure and function in ways that predict favorable antidepressant potential. By targeting new mechanisms of action, these compounds are expected to help individuals who do not respond to existing medications.

**Academic Honors** Junior Research Fellowship from University Grants Commission (UGC), India  
Senior Research Fellowship from University Grants Commission (UGC), India  
Young Scientist Travel Award for American Society of Pharmacology and Experimental Therapeutics Annual meeting at Experimental Biology 2006 meeting, San Francisco, USA  
First position in poster presentation in 25th Annual Meeting of the Southeastern Pharmacology Society, Nov. 4-5, 2004 at Oxford, Mississippi, USA

### **Academic Qualifications**

Ph.D., University of Calcutta, 2003

### **Teaching Activities**

Pharmacology I, This course is designed to impart students an in-depth understanding about the general pharmacological principles. This includes the mechanisms of drug action at molecular level and various processes involving drug-cell interactions. Basic pharmacology is reinforced with the introduction of clinical pharmacological concepts like bioavailability, volume of distribution, half life of drugs and clinical applications of therapeutic drug monitoring. In addition to general pharmacology, this course deals with the drugs acting on the autonomic nervous system and the central nervous system., 2010-Till date

Pharmacology III, This course is designed to impart students an in-depth understanding about the antimicrobial drugs, immunosuppressant agents and drugs used in the treatment of malignancies and endocrine disorders. This includes the mechanisms of action,

antimicrobial spectrum, pharmacokinetics, adverse effects and drug interaction of all anti-bacterial, anti-viral, anti-fungal, anti-protozoal, anti-helminthic and anti-cancer drugs. The pharmacology of corticosteroids, immunosuppressant drugs and drugs used in the treatment of diabetes mellitus and thyroid disorders is also included in this course., 2010-Till date

**Biochemistry,** Biochemistry seeks to explain life in chemical terms and it covers the chemistry of the molecules and macromolecules in the living system. Biochemistry is designed to study molecules and macromolecules in living systems through an application of the principles of organic and physical chemistry as well as molecular biology and genetics.

**Bacteriology,** The course covers the basic cell structure, survival, colonization, and genetics. The course also stresses the role of bacteria in environment and on human. There is special emphasis on the spread and control of bacteria. The course teaches the basic laboratory techniques, major groups of bacteria, microbial diseases (sexually-transmitted, airborne, foodborne, and waterborne), and differentiating bacteria species using biochemical tests as well as antibiotics and chemotherapeutic agents.

**Toxicology,** The course is designed to provide students with basic knowledge about the history of toxicology; toxicant types; general principle of toxicology; general management of poisoned patient. Also the course provides detailed information about signs of toxicity, management and mechanism of toxicity of drugs listed in the course syllabus and the common toxic effects associated with air pollutants and pesticides.

**Chemotherapy,** The Chemotherapy Tutorial emphasizes self-directed learning. It provides the students an in-depth understanding and knowledge on the antimicrobial and anticancer drugs and corticosteroids. It also provides up-to-date information on immunosuppressant.

**Cell Biology,** This course deals primarily with eukaryotic cells. Lectures are devoted to structural details and the molecular functions of the different parts of the cell. Lectures will introduce topics such as organelle structure & function, cell- cell interaction, and cell types and function in different tissues. Lectures also deal with signal transduction and cellular functions that are required for cell growth and differentiation. The course also includes cytochemistry for identifying normal and abnormal cells.

**Microbiology and Immunology,** This course is an introduction to basic Microbiology, virology and microbiology. Emphasis on understanding the fundamentals of these disciplines, with examples relevant to clinical and diagnostic medicine. Topics covered in Bacteriology includes: bacterial structure, classification and growth; mechanisms of bacterial pathogenesis; sterilisation and disinfection. Virology section will include: virus classification, structure and replication; pathogenesis, epidemiology and control of virus

infections. . Immunology section will cover Innate immunity; specific humoral effector mechanisms; cells and tissues of the immune system; antigen recognition by T cells; cell-mediated immunity, hypersensitivity; autoimmunity; immunodeficiency.

## **Research Activities**

### **- Research Interests**

Neuropharmacology

Biochemical Pharmacology

Toxicology and Neurotoxicology

Drug Development

Neurobiology

### **- Conference Presentations**

Reem Khalfan Almaqbali and Jamaluddin Shaikh In-Vivo Screening of Antidepressant Activity of Methanolic and Aqueous Extracts from *Withania qaraitica* in Mice, 6th International Conference of Pharmacy and Medicine (ICPM) held on 18-20 January, 2022 , Sharjah Research Technology and Innovation Park, Sharjah, United Arab Emirate, 20/01/2022

### **- Publications**

#### **Article:**

1. 2021 Prevalence of substance abuse among Omani population in two Governorates in Sultanate of Oman, Jokha Sulieman Al Ghafri, Senaida Said Al-Senaidi, Jamaluddin Shaikh. Madridge Journal of Nursing. 5, 167-172
2. 2019 Knowledge and perception of preventable medical errors in Sultanate of Oman., Jamaluddin Shaikh, Habiba Al-Ruzaiki. Madridge J. Nurs. 4, 134-138
3. 2018 Prevalence of substance abuse among the school students in Al-Dhahirah Governorate, Sultanate of Oman., Amna Al-Alawi, Jamaluddin Shaikh. Madridge J. Nurs. 3, 118-123
4. 2011 Sigma receptor ligand AC927 (1-(2-phenethyl)piperidine oxalate) attenuates methamphetamine-induced hyperthermia and serotonin damage in mice., Michael Seminerio, Nidhi Kaushul, Jamaluddin Shaikh, Andrew Coop, and Rae R. Matsumoto. Pharmacol. Biochem. Behav. 98, 12-20.

5. 2011 CM 156, a high affinity sigma ligand, attenuates the stimulant and toxic effects of methamphetamine in mice., Nidhi Kaushal, Michael Seminerio, Jamaluddin Shaikh, Mark Medina, Christophe Mesangeau, Lisa L Wilson, Christopher McCurdy, and Rae Matsumoto. *Neuropharmacology* 61, 992-1000.
6. 2010 A novel substituted piperazine, 3-(4-(4-cyclohexylpiperazin-1-yl)butyl)benzo[d]thiazole-2(3H)-thione (CM156), attenuates the stimulant and toxic effects of cocaine in mice., Yan-Tong Xu, Nidhi Kaushal, Jamaluddin Shaikh, Lisa L. Wilson, Christophe Mésangeau, Christopher R. McCurdy and Rae R. Matsumoto. *J. Pharmacol. Exp. Ther.* 333, 491-500.
7. 2008 Attenuation of methamphetamine-induced effects through the antagonism of sigma receptors: evidence from in vivo and in vitro studies., Rae R. Matsumoto, Jamaluddin Shaikh, Lisa L. Wilson, Jiajia Wang and Andrew Coop. *Eur. Neuropsychopharmacol.* 18, 871-881.
8. 2008 Relationship between methamphetamine exposure and matrix metalloproteinase 9 expression., Yun Liu, Sheketa Brown, Jamaluddin Shaikh, James A. Fishback and Rae R. Matsumoto. *NeuroReport* 19, 1407-1409.
9. 2008 Conversion of a highly selective sigma-1 receptor-ligand to sigma-2 receptor preferring ligands with anticocaine activity., Christophe Mesangeau, Sanju Narayanan, Andrea Green, Jamaluddin Shaikh, Nidhi Kaushal, Eddy Viard, Yan-Tong Xu, James Fishback, J. Poupaert, Rae Matsumoto and Christopher McCurdy. *J. Med. Chem.* 51, 1482- 1486.
10. 2008 Identification of antidepressant drug leads through the evaluation of marine natural products with neuropsychiatric pharmacophores., Jeffrey A. Diers, Kelly D. Ivey, Abir El-Alfy, Jamaluddin Shaikh, Jiajia Wang, Anna J. Kochanowska, John F. Stoker, Mark T. Hamann and Rae R. Matsumoto. *Pharmacol. Biochem. Behav.* 89, 46-53.
11. 2008 Nitrile analogs of meperidine as high affinity and selective sigma-1 receptor ligands., Susan L. Mercer, Jamaluddin Shaikh, J. R. Traynor, Rae R. Matsumoto, and Andrew Coop. *Eur. J. Med Chem.* 43, 1304-1308.
12. 2004 Interactive effects of paraoxon and pyridostigmine on blood-brain barrier integrity and cholinergic toxicity., Xun Song, Carey Pope, Ramesh Murthy, Jamaluddin Shaikh, Bachchu Lal and Joseph P. Bressler. *Toxicol. Sci.* 78, 241-247.
13. 2003 Effects of daily stress or repeated paraoxon exposures on subacute pyridostigmine toxicity in rats., Jamaluddin Shaikh, Subramanya Karanth, Dibyendu Chakraborty, Steve Pruett and Carey N Pope. *Arch. Toxicol.* 77, 576-583.
14. 2003 Combined forced running stress and subclinical paraoxon exposure have little effect on pyridostigmine-induced acute toxicity in rats., Jamaluddin Shaikh and Carey N

Pope. Toxicology 190, 221-230.

15. 2003 Brain regional gamma-aminobutyric acid (GABA) and locomotor activity: Effect of long-term aldrin exposure., Sk. Jamaluddin and M. K. Poddar. Pol. J. Pharmacol. 55, 371-382.

16. 2001 Aldrin-induced stimulation of locomotor activity and brain regional glutamate., Sk. Jamaluddin and M. K. Poddar. Meth. Find. Exp. Clin. Pharmacol. 23, 183-189.

17. 2001 Aldrin-induced locomotor activity: Possible involvement of GABAergic-cholinergic-dopaminergic interaction., Sk. Jamaluddin and M. K. Poddar. Pol. J. Pharmacol. 53, 21-30.

18. 2001 Role of brain regional GABA: Aldrin-induced stimulation of locomotor activity in rat., Sk. Jamaluddin and M. K. Poddar. Neurochem. Res. 26, 439-451.

### **Book Section:**

1. 2007 Sigma receptors and drug abuse., Yun Liu, Yongxin Yu, Jamaluddin Shaikh, Buddy Pouw, AnTawan Daniels, Guang-Di Chen and Rae R. Matsumoto. In: Sigma Receptors. Eds: Rae R. Matsumoto, Wayne D. Bowen and Tsung-Ping Su, Springer, Pages 315-336.

2. 2005 Benzyl Benzoate., Jamaluddin Shaikh. In: Encyclopedia of Toxicology. Ed: Philip Wexler, 2nd edn, Academic Press, pages 264-265.

3. 2005 Benomyl., Jamaluddin Shaikh. In: Encyclopedia of Toxicology. Ed: Philip Wexler, 2nd edn, Academic Press, pages 248-249.

4. 2005 Amitraz., Jamaluddin Shaikh. In: Encyclopedia of Toxicology. Ed: Philip Wexler, 2nd edn, Academic Press, pages 99-100.

5. 2005 Amdro., Jamaluddin Shaikh. In: Encyclopedia of Toxicology. Ed: Philip Wexler, 2nd edn, Academic Press, pages 87-88.

6. 2005 Disulfoton. , Jamaluddin Shaikh. In: Encyclopedia of Toxicology. Ed: Philip Wexler, 2nd edn, Academic Press, pages 85-86.

### **Faculty Administrative Experience**

2016 - Present: School of Pharmacy Quality Officer - University of Nizwa

*Working together with College Quality Officer to maintain the quality related aspects of School of Pharmacy*

### **Membership in Professional Bodies**

2005-2010: Society for Neuroscience

2004-2010: American Society of Pharmacology and Experimental Therapeutics

2003-2006: Society of Toxicology

2003-2010: International Neurotoxicology Association

### **Award and Recognitions**

2020 TRC Research Grant (BFP-RGP-HSS-20-092)

Principal Investigator in TRC RG project entitled `` Characterization of indigenous antidepressant plants growing in Oman`` (Project No. BFP/RGP/HSS/20/092) approved for implementation in November, 2020 for two years.

Ref.: <https://www.unizwa.edu.om/staff/chs/jamaluddin>