



# Faculty Portfolio

# Dr. Mohammed H. AL Mughram Assistant Professor

Pharmaceutical Chemistry Department (Medicinal Chemistry)

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## Education:

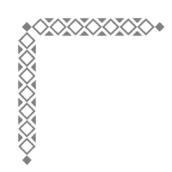
Year of Graduation	Qualifications (Specializations if any)	University/College, Country
2022	Doctor of Philosophy	Virginia Commonwealth University
	(Medicinal Chemistry)	VA, USA
2018	Master of Biological and	University of Toledo
	Medicinal Chemistry	OH, USA
2013	Bachelor of Pharmacy	King Khalid University
	-	Abha, Saudi Arabia

Professional experience:

Year	Positions	University/College, Country
March 2023-	Assistant Professor	College of Pharmacy, King Khalid University,
present	Pharmaceutical Chemistry	Abha, Saudi Arabia
	Department	
August 2018-	Lecturer,	College of Pharmacy, King Khalid University,
March 2023	Department of	Abha, Saudi Arabia
	Pharmaceutical Chemistry	
2014 –2018	Teaching Assistant,	College of Pharmacy, King Khalid University,
	Department of	Abha, Saudi Arabia
	Pharmaceutical Chemistry	

#### Academic/research awards:

Year/Duration of Award	Name of the Award	University/Company, Country
2022	J. Doyle Smith Award Finalist –	Virginia Commonwealth
	Department of Medicinal Chemistry,	University
	College of Pharmacy, VCU, USA	VA, USA
2019	Best Graduate student oral	Virginia Commonwealth
	presentation – Department of	University
	Medicinal Chemistry, College of	VA, USA
	Pharmacy, VCU, USA	
2013	Second-Class Honors – College of	College of Pharmacy
	Pharmacy, King Khalid University,	King Khalid University
	KSA	Saudi Arabia





#### Research interests:

- Drug Discovery and Development
- Protein-Protein Interactions
- Protein Structure and Function
- Molecular Modeling
- Molecular Docking and Dynamics Simulation
- Computational Chemistry

### Teaching experience:

- Working as Assistant Professor in the Department of Pharmaceutical Chemistry, College of Pharmacy, King Khalid University, Abha from 07/03/2023) to till date.
- Worked as a teaching assistant (graduate level) at Virginia Commonwealth University (College of Pharmacy)- Advanced Molecular Modeling (MEDC670) during the academic years 2021 and 2022.

#### **Publications:**

- 1- Ghatge M.S., **AL Mughram, M.H.,** Omar A.M., Safo M.K., 2021. Inborn errors in the vitamin B6 salvage enzymes associated with neonatal epileptic encephalopathy and other pathologies. Biochimie. 183:18-29.
- 2- **AL Mughram, M.H.,** Catalano, C., Bowry, J.P., Safo, M.K., Scarsdale, J.N., Kellogg, G.E., 2021. 3D interaction homology: Hydropathic analyses of the "π-cation" and "π-π" interaction motifs in phenylalanine, tyrosine, and tryptophan residues. J. Chem. Inf. Model. 61, 2937-2956.
- 3- Catalano, C., **AL Mughram, M.H.,** Guo, Y., Kellogg, G.E., 2021. 3D interaction homology: Hydropathic interaction environments of serine and cysteine are strikingly different and their roles adapt in membrane proteins. Curr. Res. Struct. Biol. 3, 239-256.
- 4- **AL Mughram, M.H,** Herrington, N.B., Catalano, C., Kellogg, G.E., 2021. Systematized analysis of secondary structure dependence of key structural features of residues in soluble and membrane-bound proteins, J. Struct. Biol.: X. 100055.
- 5- **AL Mughram, M.H.,** Catalano, C., Safo, M.K., Kellogg, G.E., 2021. 3D hydropathic interaction maps as a novel motif for protein structure description: A case study of phenylalanine, tyrosine, and tryptophan residues. Protein Sci. 30, 49-49.
- 6- **AL Mughram, M.H.,** Ghatge, M.S., Kellogg, G.E., Safo, M.K., 2023. Elucidating the interaction between pyridoxine 5'-phosphate oxidase and dopa decarboxylase: Activation of B6-dependent enzyme. Int. J. Mol. Sci. 24, 642.
- 7- **AL Mughram, M.H.,** Catalano, C., Herrington, N.B., Safo, M.K., Kellogg, G.E., 2023. 3D interaction homology: The hydrophobic residues alanine, isoleucine, leucine, proline and valine play different structural roles in soluble and membrane proteins. Front. Mol. Biosci. Front. Mol. Biosci. 10:1116868.
- 8- Donkor A.K., Pagare P.P., **AL Mughram M.H.,** Safo M.K., 2023. X-ray crystallography and sickle cell disease drug discovery—a tribute to Donald Abraham. Front. Mol. Biosci. 10:1136970.