Dr. Muhammad Sufian

Assistant Professor

Department of Biotechnology

Mirpur University of Science & Technology (MUST), Mirpur-10250, AJK, Pakistan

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ACADEMICS

2018	**M.Phil. leading to Ph.D.**	Molecular Medicine
	Dr. Panjwani Center for Molecular Medicine & Drug Research, University of Karachi, Pakistan	
2011	**M.Sc.**	Biotechnology
	Department of Biotechnology, University of Karachi, Pakistan	

WORK EXPERIENCE

Nov 2019 – date **Assistant Professor**
Department of Biotechnology, Mirpur University of Science & Technology, Mirpur, AJK

Jan – Jul 2017 **Visiting Faculty**
Department of Bioinformatics, Sir Syed University of Engineering and Technology, Karachi

RESEARCH EXPERIENCE

1. Visiting Research Scholar (November 2015 - May 2016)
   Supervisor: Dr. Carlos J. Camacho (Associate Professor)
   Research lab: Department of Computational Biology, School of Medicine, University of Pittsburgh, USA
   Projects:
   a. Targeting essential protein-protein interactions of *Salmonella enterica* to search novel inhibitors.
   b. Pharmacophore based inhibitor search for multidrug resistance protein NDM-1
   c. SMINA Scoring Function Optimization for non-covalent interactions (metallic and halogen bond) of inhibitors with the binding site of receptor proteins.

2. M.Phil. leading to Ph.D. (July 2012 - April 2018)
   Supervisor: Dr. Reaz Uddin (Associate Professor)
   Research lab: Dr. Panjwani Center for Molecular Medicine & Drug Research, University of Karachi
   Title of Thesis: Computational Analysis of Metabolic Pathways and Protein-Protein Interactions (PPIs) of Clinically Significant Pathogens, and Identification of Inhibitors of PPIs.
   Projects:
   a. Bioinformatics approach for analyzing non-host metabolic pathways of bacterial pathogens for the identification of druggable protein targets.
   b. Understanding the molecular interface of PPIs using protein-protein docking software.

3. M.Sc. Thesis (July 2011 - March 2012)
   Supervisor: Prof. Dr. Mustafa Kamal
   Title of thesis: Characterization of TEM-mediated ampicillin resistance in *Salmonella* Typhi isolates of Pakistan.

SCIENTIFIC PUBLICATIONS

4 Uddin R, Siddiqui QN, **Sufian M**, Azam SS, Wadood A. (**2019**). Proteome-Wide Subtractive Approach to Prioritize a Hypothetical Protein of XDR-*Mycobacterium tuberculosis* as Potential Drug Target. [PMID: 31388979]

3 Uddin R and **Sufian M** (**2016**). Core Proteomic Analysis of Unique Metabolic Pathways of *Salmonella enterica* for the Identification of Potential Drug Targets. PLoS One, 11(1), p.e0146796 [PMID: 26799565]

2 Ikram H, Bano K, Jameel M, Azhar M, Saeed K and **Sufian M** (**2015**). Conformational Analysis and Geometry Optimization of Apomorphine: an Anti-Parkinsonian Drug. Pakistan Journal of Pharmaceutical Sciences, 28 (5), 1685-1690. [PMID: 26408888]

1 **Sufian M**, Kamal M, Fakharuddin, Khan RA, Hassan A, and Ahmed M (**2014**). Characterization of TEM-Mediated Ampicillin Resistance in *Salmonella* Typhi Isolates of Pakistan. Global Journal of Pathology and Microbiology, 1, 69-74. (DOI: dx.doi.org/10.14205/2310-8703.2013.01.02.4)

EXAMINATIONS

Year	Organization	Exam Title	Score	Percentile
2015	UCLES	IELTS (Academic)	Overall band: 7.0	
2014	ETS	GRE Subject (Biochemistry, Cell and Molecular Biology)	530/990	52
2014	HEC	GRE-Type Examination (Molecular Medicine)	92/180	67

SCHOLARSHIPS

Year	Title of Scholarship	Funding Agency	Duration
2015	International Research Support Initiative Program	HEC Pakistan	6 months
2012	Indigenous Scholarship for M.Phil. leading to Ph.D.	HEC Pakistan	5 years

LECTURE

Resource Person/Demonstrator in Hands-on Training Workshop on "**Bioinformatics: Converting Data to Knowledge**". October 7, 2019. Organized by Centre for Advanced Drug Research, COMSATS University Islamabad, Abbottabad Campus, Pakistan.

POSTER PRESENTATION

Muhammad Sufian, Matthew P. Baumgartner, Zhaofeng Ye, Carlos J. Camacho, and Reaz Uddin
Title: Structure-based Virtual Screening of the LPS-Assembly PPI Complex LptD/E of *Salmonella enterica*
Event: 14th EurAsia Conference on Chemical Sciences, January 12 - 15, 2015, Karachi, Pakistan

Muhammad Sufian and Reaz Uddin
Title: Pangenomic Analyses of Unique Metabolic Pathways of *Salmonella enterica* for the Identification of Potential Antimicrobial Targets. December 15 - 18, 2016, Karachi, Pakistan
Event: 5th International Symposium-cum-Training Course on Molecular Medicine and Drug Research

SCIENTIFIC SKILLS

- **Computer Programming**: Shell (good), Python (basic)
- **Softwares**: NCBI BLAST+, ClustalX/W2, Chimera, MEGA, JalView, PyMOL, Adobe Photoshop CS2