

Muhammad Sufian (Ph.D.)

Assistant Professor

Department of Biotechnology, Mirpur University of Sci. & Tech., Mirpur-10250, AJK, Pakistan

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ACADEMICS

- 2018 **Ph.D.** Molecular Medicine
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 Sci. & Tech., Mirpur, Pakistan
- Jan - May 2017 **Visiting Faculty**
Department of Bioinformatics, Sir Syed University of Engg. and Tech. Karachi, Pakistan

RESEARCH EXPERIENCE

- Supervisor, Bioinformatics Research Group (November 2019 – date)
Department of Biotechnology, Mirpur University of Sci. & Tech., Mirpur-10250, AJK, Pakistan
Projects:
 - Identification of industrially significant protein products of bacteria using bioinformatics.
 - Computational characterization of hypothetical proteins of bacteria, fungal, and plant origin having biotechnological implication.
 - NCBI GenBank submissions of newly sequenced genes.**Research Students (Completed/ Ongoing):** - M.Phil. (18, 04) - B.S. (11, 04)
- 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:
 - Targeting essential protein-protein interactions of *Salmonella enterica* to search novel inhibitors.
 - Pharmacophore based inhibitor search for multidrug resistance protein NDM-1
 - SMINA Scoring Function Optimization for non-covalent interactions (metallic and halogen bond) of inhibitors with the binding site of receptor proteins.
- M.Phil. leading to Ph.D. (July 2012 - April 2018)
Supervisor: Dr. Reaz Uddin (Associate Professor)
Research lab: PCMD, University of Karachi, Pakistan
Title of Thesis: Computational Analysis of Metabolic Pathways and Protein-Protein Interactions (PPIs) of Clinically Significant Pathogens, and Identification of Inhibitors of PPIs.
Projects:
 - Bioinformatics approach for analyzing non-host metabolic pathways of bacterial pathogens for the identification of druggable protein targets.
 - Understanding the molecular interface of protein targets and their interaction partners.
- M.Sc. Thesis (July 2011 - March 2012)
Supervisor: Prof. Dr. Mustafa Kamal
Research lab: Department of Biotechnology, University of Karachi, Pakistan
Title: Characterization of TEM-mediated ampicillin resistance in *Salmonella* Typhi isolates of Pakistan.

SCIENTIFIC PUBLICATIONS (Impact Factor Only)

- 5 Hussain S, Asghar R, Ajaib M, Ali I, Siddiqui MF, Ain S and **Sufian M (2023)**. DNA barcode for phylogenetic analysis of genus *Morus* species from Azad Jammu and Kashmir. *Pakistan Journal of Botany*. 55(6): 2211-2220. [[Link](#)]
- 4 Uddin R, Arif A, Zahra NU, **Sufian M (2021)**. Comparative proteome-wide study for in-silico identification and characterization of indispensable hypothetical proteins of food bornepathogen *Campylobacter jejuni* (CJJ) by subtractive genomics approach. *Pakistan Journal of Pharmaceutical Sciences*. 34(4): 1359-1367 [PMID: [34799308](#)]
- 3 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. *Genes & genomics*. 41(11):1281-92. [PMID: [31388979](#)]
- 2 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](#)]
- 1 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](#)]

RESEARCH GRANT

Organization: MUST SRGP (Start-Up Research Grant Program) Ref. No. ORIC/180/2020

Project Title: Identification of Industrially Significant Protein Products of Bacteria using Bioinformatics Approaches.

BUSINESS STARTUP GRANT

Organization: MUST BIC (Business Incubation Center) 2024

Project Title: MUGenS - Mirpur University Genomic Services.

PROFESSIONAL ACHIEVEMENTS

- **Editorial Member.** International Journal of Emerging Multidisciplinaries: Biomedical and Clinical Research. ISSN: P-2957-8620 E-2960-0731 (<https://ojs.ijemd.com/index.php/BiomedicalCR/index>)
- **Demonstrator** in Hands-on Training Workshop on “Bioinformatics: Converting Data to Knowledge”. October 7, 2019. Organized by Centre for Advanced Drug Research (CADR), COMSATS University Islamabad (CUI), Abbottabad Campus, Pakistan.
- **IELTS** (UCLES, Academic) 2015. Overall band: 7.0
- **ETS GRE.** Subject (Biochemistry, Cell and Molecular Biology) 2014. Score: 530/990. Percentage: 52
- **Scholarship.** International Research Support Initiative Program. 2015. HEC Pakistan. 6 months
- **Scholarship.** Indigenous Scholarship for M.Phil. leading to Ph.D. 2012. HEC Pakistan. 5 years
- **Poster Presentation:** 14th EurAsia Conference on Chemical Sciences. January 12 - 15, 2015, Karachi, Pakistan
- **Poster Presentation:** 5th International Symposium-cum-Training Course on Molecular Medicine and Drug Research. December 15 - 18, 2016, Karachi, Pakistan

SCIENTIFIC SKILLS

- **Programming:** Shell (good), Python (basic)
- **Operating system:** Linux (OpenSUSE, Ubuntu), Microsoft Windows

REFERENCE

Dr. Reaz Uddin (Ph.D.)

Associate Professor

PCMD, International Center for Chemical and Biological Sciences, University of Karachi, Karachi 75270, Pakistan.

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Dr. Matthew Baumgartner (Ph.D.)

Data Scientist

Computational Chemistry

Valo Health

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