Dr. Nisar Ahmed Shar

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Languages:	English, Sindhi, Urdu

Objective

I look forward to working in a competitive and challenging environment where I can use my skills and abilities to the best.

Education

Ph.D Bioinformatics	University of Leeds (2017)
BS Bioinformatics (2008)	COMSATS Institute of Information Technology, Islamabad (1st Division)
H.S.S.C (2004)	Bahria Foundation College, Khairpur (1st Division)
S.S.C (2002)	Army Public School & intermediate College, Pano Aqil Cantt (1st Division)

Research Experience

Postdoctoral Research Fellow, Queen Square Institute of Neurology, University College London (1st September 2021 to 29th February 2024).

1. I have analysed multiomic datasets at the single cell level, comprising both snATAC-seq and snRNA-seq, across substantial population of individuals with Parkinson's Disease (PD) and a group of healthy controls.
2. We predicted COMT gene association with Parkinson's Disease from a large number of Genome-Wide Associations.
3. In addition to the above, we studied changes in chromatin accessibility from childhood to late adulthood, and predicted PD risk variants that regulate the CTSB gene.

Teaching Experience

- I have been working as an Assistant Professor at the NED University of Engineering & Technology since March 2017
- I was a lecturer at NED University of Engineering & Technology from March 2009 to March 2017.
- I taught Bioinformatics, Computational Biology, Tissue Engineering and Biotechnology.
- I worked as a demonstrator at the University of Leeds for three years
- I also did MS thesis assessment for three years at the UCL Institute of Neurology

Publications

1. **Shar, N.A**., Vijayabaskar, M.S. & Westhead, D.R. Cancer somatic mutations cluster in a subset of regulatory sites predicted from the ENCODE data. Mol Cancer **15,** 76 (2016).

https://doi.org/10.1186/s12943-016-0560-0

2. Vijayabaskar, M. S., Goode, D. K., Obier, N., Lichtinger, M., Emmett, A., Abidin, F., **Shar, N.,** Hannah, R., Assi, S. A., Lie-A-Ling, M., Gottgens, B., Lacaud, G., Kouskoff, V., Bonifer, C., & Westhead, D. R. (2019). Identification of gene specific cis-regulatory elements during differentiation of mouse embryonic stem cells: An integrative approach using high-throughput datasets. PLoS computational biology, 15(11), e1007337. https://doi.org/10.1371/journal.pcbi.1007337

3. Ali, Warda, and **Nisar A Shar**. "Molecular docking analysis of timepidium with Acetylcholine and lumacaftor with GABA(A) activator." Bioinformation vol. 15,11 832-837. 16 Dec. 2019, doi:10.6026/97320630015832.

4. Amna Amin Sethi and **Nisar Ahmed Shar***, "Impact of Liver Cancer Somatic Mutations on Protein Structures and Functions", Current Proteomics (2020) 17: 1. https://doi.org/10.2174/1570164617666200415155637.

5. Sobia Anam and **Nisar A Shar**. "Effect of environmental, economic and health factors on CoVid-19 transmission". Bioinformation 17(1): 37-45 (2021)

6. Fatima, Ridaul, and **Nisar A. Shar**. "Evolutionary Patterns in the Genus Homo." *INTERNATIONAL JOURNAL OF HUMAN GENETICS* 21.1 (2021): 8-22.

7. Ramsha Nasir, **Nisar A Shar**. Identification of Driver Mutations in MicroRNAs for Early Diagnosis of Lung Cancer. Journal of Bioinformatics and Systems Biology 3 (2020): 074-080

8. Burney, S. T., & **Shar, N.** (2021). Epidemiological assessment of mutational capabilities in common seasonal viruses. *International Journal of Endorsing Health Science Research (IJEHSR)*, *9*(4), 448-458.

9. Sumbul Fatima, & **Shar, N. A.** (2023). Investigating the causes of birth defects. *International Journal of Endorsing Health Science Research*, *11*(1), 01–07. https://doi.org/10.29052/IJEHSR.v11.i1.2023.01-07

10. Joyal-Desmarais, K., Stojanovic, J., Kennedy, E.B. *et al.* How well do covariates perform when adjusting for sampling bias in online COVID-19 research? Insights from multiverse analyses. *Eur J Epidemiol* 37, 1233–1250 (2022). https://doi.org/10.1007/s10654-022-00932-y

11. Mughal, A. A., Kazi, Y. F., Bokhari, H., & **Shar, N. A.** (2022). Evaluation of Vibrio cholerae O1 El Tor variants circulating in Sindh Pakistan. *Journal of the Pakistan Medical Association*, *72*(12), 2381–2385. https://doi.org/10.47391/JPMA.1942

12. Bakhtiar Ahmed Bhambrho, **Nisar Ahmed Shar** *et al.* Survival of Premature Babies with the Revolutionary Kangaroo Mother Care Technique at a Tertiary Care Center, Sindh, Pakistan. Pakistan Journal of Medical & Health Sciences, 15(11):3244-3246. http://dx.doi.org/10.53350/pjmhs2115113244

13. Sethi A A, **Shar N A**. Identification of Liver Cancer Driver Mutations from COSMIC Data. Int J Cancer Manag. 2023;16(1):e131281. https://doi.org/10.5812/ijcm-131281

14. Komal Tara, **Nisar Ahmed Shar**, & Amna Amin Sethi. (2023). Systematic identification of regulatory elements in Leukemia. *International Journal of Endorsing Health Science Research*, *12*(1), 30–38. https://doi.org/10.29052/IJEHSR.v12.i1.2024.30-38

15. Molecular Docking Analysis of Herbal Medicines for Diabetes Mellitus Treatment (accepted for publication in the Journal Current Traditional Medicine)

16. Surface Interactions and Mechanical Properties Shaping Biofilm Dynamics in S. aureus and P. aeruginosa (Under review process in the Journal of Basic Microbiology)

17. Does *COMT* have a Role in Parkinson's Disease Susceptibility? (Submitted in the Journal Movement Disorders)

Conferences

1. I had presented my poster named "**Structural and Functional analysis of genes involved in Alport syndrome**" in symposium-cum-workshop from 1st-3rd March 2011 on Biochemistry in University of Karachi.
2. I presented my poster named "**Reverse Engineering: Genetic factors involved in Multiple Sclerosis**" in symposium-cum-workshop on 1st-3rd March 2011 on Biochemistry at the University of Karachi
3. I presented my abstract "**Association of SNPs with Ovarian Cancer Susceptibility**" at the International Conference on Biotechnology at the University of Sindh.
4. I presented my poster titled "**Statistics and evolutionary conservation analysis of overlapping transcription factor binding sites**" in NGS-2016 conference from 4-6th April, 2016 at Centre for Genomic Regulation, Barcelona, Spain

Skills

- Software programming in Python
- Practical skills in molecular biology laboratory techniques
- Practical skills in Bioinformatics techniques including Next generation sequencing and Single cell data analysis

Grants and Awards

1. SRGP (Start-Up Research Grant Program): I recieved HEC SRGP grant after returning to Pakistan, which was small grant primarily used to purchase basic computing equipment for initiating Bioinformatics research.
2. Genomics lab under the domain of the National Center of Big Data and Cloud Computing (NCBC): I won the Genomics lab under the domain of NCBC after two rounds of research competition in Islamabad. This lab aimed to train young Biomedical Engineers in the domain of Bioinformatics and create a facility to process biological data.
3. NEDAASC Best Publication Award from NEDAASC: The NEDAASC recognises young scholars and teachers for their excellence in research and teaching. I was fortunate to win the 2017 Best Publication Award.
4. Postdoctoral Fellowship from the University of Oxford: I was selected as a Postdoctoral Fellow after submitting my thesis in late 2016 but could not join due to my commitment in Pakistan.
5. Research Fellowship in Genetics, Genomics & Bioinformatics at the University College London: I have recently concluded that this fellowship and its publications are being prepared.

REFERENCES

1. Prof. David Westhead
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   Leeds D.R.Westhead@leeds.ac.uk
2. Prof. Nicholas Wood
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   University College London
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