Curriculum-vitae

Dr. MD SHOAIB

RZ-2537A/27,
TUGHLAKABAD EXTN.
NEW DELHI – 110019
9873676735
shoaibkhan34417@gmail.com

Area of Interest:

As a dedicated and detail-oriented researcher with fresh perspectives in biochemistry and biophysics, I am passionate about uncovering the intricate mechanisms that govern genomic sequences and their roles in specific genes. My proficiency in utilizing a range of biophysical & biochemical techniques, such as circular dichroism (CD), UV-thermal melting (Tm), and native gel electrophoresis, allows me to perform comprehensive structural analyses. I am skilled in bioinformatics, enabling me to conduct thorough analyses of genomic sequences.

Academic Qualification:

- Ph.D., Department of Chemistry, University of Delhi, Delhi.

  Dissertation: "Structural diversity and Recognition of Oligopurine•oligopyrimidine motif located at Coding region of Human DACH1 Gene".

- Master of Science in Chemistry (Specialization-Inorganic chemistry), Department of Chemistry, University of Delhi, Delhi; Ist Division.

- Bachelor of Science (Industrial Chemistry), University of Delhi, Delhi; Ist Division.

- Schooling from CBSE BOARD.

Work Experience:

Guest faculty (Assistant Professor) in the Department of Chemistry, University of Delhi (From 12th June 2023 – Currently working).

Accomplishments:

- CSIR-UGC JRF JUNE 2017.
- CSIR-UGC NET JUNE 2016.
- Qualified GATE & IIT JAM in Chemistry.
- Certified from Teach for India in spoken English.
- Best oral award at International Conference on Recent Trends in Biological and Chemical Sciences (ICRTBCS-2023), Delhi.
- Best poster award at International Conference on Recent Advances in Nanomedical Sciences (RANMS-2022), Delhi.
- Second prize in poster at BIOTIKOS-2017, Trends in nanobiotechnology, Delhi.

Hard Skills:

- Proficient in biophysical techniques for structural analysis (circular dichroism (CD), UV-thermal melting (Tm), native gel electrophoresis)
- Expertise in bioinformatics analysis for studying genomic sequences and their roles in specific genes
- Skilled in designing, conducting, and interpreting molecular biology and biophysics experiments
- Experienced with academic computational research tools and software
- Ability to develop engaging learning materials and activities

Soft Skills:

- Excellent communication skills, evidenced by publications, presentations, and teaching
- Strong collaborative leadership qualities
- Creative problem-solving abilities
- Detail-oriented approach to research and analysis
- Ability to convey complex scientific concepts in an understandable manner

List of Publications

- **Shoaib Khan**, Anju Singh, Nishu Nain, Shrikant Kukreti, Alkali cation mediated topology displayed by an exonic G-rich sequence of TRPA1 gene, *Journal of Biomolecular Structure and Dynamics*, 2022, 1-12.

- **Shoaib Khan**, Anju Singh, Nishu Nain, Srishty Gulati, Shrikant Kukreti, Sequence-specific recognition of a coding segment of human DACH1 gene via short pyrimidine/purine oligonucleotides: *RSC advances,* 2021, 11, 40011-40021.

- Nishu Nain, Anju Singh, **Shoaib Khan**, Shrikant Kukreti, Structural Switching/ polymorphism by sequential base substitution at quasi-palindromic SNP site (G→A), in LCR of Human β-globin Gene cluster. *International Journal of Biological Macromolecules*, 2022, 201, 216-225.

- Nishu Nain, Anju Singh, **Shoaib Khan**, Shrikant Kukreti, G-quadruplex formation at human *DAT1* gene promoter: Effect of C-methylation. *Biochemistry and Biophysics Reports*, 2023, 34, 101464.

- **Shoaib Khan**, Anju Singh, Nishu Nain, Priyanka Phogat, Shrikant Kukreti, Specificity matters: Metal complex-mediated recognition of multi-stranded DNA topologies [communicated].

- Priyanka Phogat, Aparna Bansal, Nishu Nain, **Shoaib Khan**, Shrikant Kukreti, Quest for Space: Endurance of DNA, Protein and Lipid macromolecules in Crowded Intracellular Environment [communicated].

Chapters:

- Anju Singh, **Shoaib Khan**, Nishu Nain, Shrikant Kukreti, Deciphering Plausible Role of DNA Nanostructures, *Academic Press, Elsevier,* Drug Delivery inFiber and Textile Engineering in Drug Delivery Systems, 2023.

- **Md. Shoaib**, Anju Singh, Srishty Gulati, Shrikant Kukreti, Mapping genomes by using bioinformatics data and tools, *Academic Press, Elsevier*, Chemoinformatics and Bioinformatics in the Pharmaceutical Sciences, 2021 (pp. 245-278).

- Anju Singh, **Md. Shoaib**, Srishty Gulati, Shrikant Kukreti, Unveiling the molecular basis of DNA - protein structure and function: an in silico view, *Academic Press, Elsevier*, Chemoinformatics and Bioinformatics in the Pharmaceutical Sciences, 2021 (pp. 305-327).

- Srishty Gulati, Anju Singh, **Md. Shoaib**, Shrikant Kukreti, Computational and functional annotation at genomic scale: gene expression and analysis, *Academic Press, Elsevier*, Chemoinformatics and Bioinformatics in the Pharmaceutical Sciences, 2021 (pp. 361-387).

- **Shoaib Khan**, Anju Singh, Priyanka Phogat, Shipra Singh, Sakshi Rana, Bharti Lekhwar, Shrikant Kukreti, Recognition and Stabilization of a G-quadruplex motif at Human *TRPA1* gene at International conference on Crossroads of Chemistry, Biology, and Atmospheric environment: a modern perspective, Department of Chemistry, University of Delhi. (Poster Presentation)

  Nishu Nain, Anju Singh, **Shoaib Khan**, Shrikant Kukreti, G-Quadruplex Formation at human DAT1 gene promoter: Effect of Cytosine methylation, International Conference on Recent Trends in Biological and Chemical Sciences, ICRTBCS-2023 Organized by Shri Ramswaroop Memorial University and Hindu College, University of Delhi, 25th November, 2023 (**Best Oral Award**)

- **Shoaib Khan**, Anju Singh, Nishu Nain, Priyanka Phogat, Shipra Singh, Shrikant Kukreti, Metal ion-mediated stabilization of G-quadruplex at coding DNA segment of Human *TRPA1* Gene at 60th ACC 2023 - Annual Convention of Chemists, Indian Institute of Technology-Delhi, Delhi. (Poster Presentation)

- **Shoaib Khan**, Anju Singh, Nishu Nain, Priyanka Phogat, Shipra Singh, Shrikant Kukreti, Alkali metal ion mediation of G-quadruplex stability at coding region of Human *TRPA1* Gene at Organic Chemistry Symposium 2023, Thieme, Department of Chemistry, University of Delhi, Delhi. (Poster Presentation)

- Nishu Nain, Anju Singh, **Shoaib Khan**, Mahima Kaushik, Shrikant Kukreti, Structural switching/polymorphism by sequential base substitution at quasi-palindromic SNP site (G→ A) in LCR of human β-globin gene cluster, International Conference on Recent Advances in Nanomedical Sciences (RANMS-2022) organized by Institute of Nano Medical Science (INMS) & Institution of Eminence (IOE), University of Delhi. (**Best poster Award**)

- **Shoaib Khan**, Anju Singh, Nishu Nain, Srishty Gulati, Shrikant Kukreti, Sequence-specific recognition of a coding segment of human *DACH1* gene via short pyrimidine/purine oligonucleotides at Recent Advances in Nano Medical Sciences (RANMS-2022), Vallabhbhai Patel Chest Institute, University of Delhi. (Poster Presentation)

- **Md Shoaib**, Nishu, Srishty Gulati, Shrikant Kukreti, Structural Polymorphism exhibited by G-rich sequences in Human *WT1* gene at 6^{th} World Congress on Nanomedical Sciences ISNSCON-2019, Vigyan Bhawan, Delhi. (Poster presentation)

- International Seminar on Effects of Pollution on Human Health, Department of Chemistry, University of Delhi. (Participation)

- National Symposium on Recent Trends, Development and Methodologies in Biophysics, organized by Department of Biophysics, South Campus, University of Delhi. (Participation)

- National workshop on Thieme Chemistry: Science of Synthesis, organized by Department of Chemistry, University of Delhi. (Participation)
- National conference on "XV J-NOST 2019 for research scholars", held at the Department of Chemistry, University of Delhi. (Participation)
- On-campus meeting "ACS on Campus" held at Shankar Lal Hall, University of Delhi. (Participation)

Amit Singh, **Md Shoaib**, Mahima Kaushik, Green synthesis of Zinc oxide nanoparticles from Azadirachta indica leaf extract and their interaction with Calf thymus DNA, at recent Advances In Chemical Sciences Towards Green & Sustainable Environment (10-11, October 2017), Aditi Mahavidyalaya, University of Delhi, Delhi. (Poster presentation)

Md Shoaib, A. Singh, M. Kaushik, Physicochemical Studies of biosynthesized silver nanoparticles and their interaction with Calf-Thymus DNA, at recent Advances In Chemical Sciences Towards Green & Sustainable Environment (2017), Aditi Mahavidyalaya, University of Delhi, Delhi. (Poster presentation)

A. Singh, **Md Shoaib**, M. Kaushik, Green synthesis of Zinc oxide nanoparticles from Azadirachta indica leaf extract and their interaction with Calf thymus DNA, at BIOTIKOS (2017) Trends in Nanobiotechnology, Teri University, Delhi. (**Second best poster award**)

Md Shoaib, Amit Singh Mahima Kaushik, Biosynthesized silver nanoparticles from eucalyptus leaf extract and their interaction of Calf Thymus-DNA, at BIOTIKOS (2017) Trends in Nanobiotechnology, Teri University, Delhi. (Poster presentation)

(MD SHOAIB)