Curriculum Vitae

Dr. Syed Ali Azam
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Working Experience:

11.06.20 to date: Research Scientist (Non-Medical) at Viral Research and Diagnostic Laboratory (VRDL), in SHKM, Govt. Medical College, Nalhar Nuh, Haryana. My work includes extraction of RNA from patient's samples to detect Covid-19 by Real Time PCR.

12.12.19 to 11.02.20: On a temporary position of Research Scientist at Molecular Biology division in Genestore India Pvt. Ltd, Gurugram, Haryana. There, the work included comparing different methods of RNA extraction from blood, saliva and skin cells and validation by Real Time PCR analysis of gene expression.

13.08.19 to 11.12.19: Assistant Professor at Department of Biotechnology, National Institute of Management and Technology (NIMT), Greater Noida, U.P. I taught Virology, Molecular Biology, Biochemistry and Microbiology to Paramedical and Biotechnology undergraduates.

20.04.09 to 14.05.09: Biomodelling Intern at Cell Works Research Pvt. Ltd. in Bangalore. My work included applying systems biology based approach together with simulation and enzyme kinetics to design models for comprehensive analysis of pathological conditions.

Academic qualifications:

2009 - 2016: PhD* in Molecular Virology from Jamia Millia Islamia University, New Delhi
2005 - 2007: MSc Biotechnology from Jamia Millia Islamia University, New Delhi
2002 - 2005: BSc Biotechnology from Jamia Millia Islamia University, New Delhi
2000 - 2001: Class-XIIth
1998 - 1999: Class-Xth
***Title of PhD thesis:** Comparative analysis of Hepatitis B virus gene silencing by small interfering RNA in wild type and mutant infections: An *in vitro* study.

Project work/Summer Training:

01.03.07 to 31.04.07: Worked on a project entitled ***"Gonosomal Mosaicism in Primary testicular failure"*** accomplished at AIIMS, New Delhi. Performed Interphase and metaphase *FISH* on human blood lymphocytes and diagnosed Mosaic Klinefelter's Syndrome in one patient.

01.06.04 to 31.07.04: Two months summer training at Malaria Research Centre, New Delhi. Learned **"Diagnostic methods to detect Malaria"** such as Geimsa staining and AO staining, PCR and QBC test.

Techniques learned:

- ✓ **Polymerase Chain Reaction (PCR):** Primer designing, predicting optimum annealing temperature by Gradient PCR, Use of High fidelity and normal *Taq DNA polymerases,* Overlap extension PCR, Colony PCR, Reverse transcription PCR (cDNA synthesis).
- ✓ **Real Time PCR** by Taqman probes, SYBR green and Eva green.
- ✓ **PCR based Site directed Mutagenesis** in HBV genome cloned in a plasmid.
- ✓ **Restriction digestion,** DNA ligation, Gene cloning and Blue white screening.
- ✓ **Enzyme linked immunosorbent assay (ELISA)** to detect HBsAg and HBeAg by commercial kit with us Microplate reader.
- ✓ **Mammalian Cell culture:** Maintenance of liver cancer cell lines (Huh7 and HepG2), Trypsinization, Passaging. Cryopreservation of cell lines in liquid N_2 and Thawing of cryopreserved cell lines.
- ✓ **Bacterial Cell culture:** Autoclaving, Preparation of Media (LB Agar and LB Broth), Culture of *E. coli* cells, Streaking, Plating, Inoculation, working on Laminar Air flow hood.
- ✓ **Preparation of competent *E. coli*** cells and assessing the bacterial growth with Spectrophotometer, Bacterial Transformation.
- ✓ **Transfection:** Transfection of plasmid DNA in Huh7 cells by Lipofectamine 2000 and BES (a sulphonic acid).
- ✓ **Extraction of RNA** from Huh7 cells, skin cells (by tape stripping), saliva and blood.
- ✓ **Minipreparation** and **Midipreparation** by alkaline lysis method and commercial kit.

- ✓ **Maxipreparation** by Qiagen kit.
- ✓ **Purification** of plasmid DNA and PCR products by commercial kits.
- ✓ **Fluorescence in situ Hybridisation** (FISH)
- ✓ **Annealing** of sense and antisense strands of oligonucleotides.
- ✓ **Predicting** the quality and quantity of DNA and RNA with Spectrophotometer and Nanodrop.

List of publications:

1. *Bhat S A, Siddiqui Z I, Parray Z A, Sultan A, Afroz M,* ***Azam S A****, Farooqui S R, Kazim S N.* Naturally occurring HMGB1 inhibitor delineating the anti-hepatitis B virus mechanism of glycyrrhizin via *in vitro* and *in silico* studies. **Journal of Molecular Liquids.356 (2022).**

2. *Anwer A, Khan S, Amir F, Bhat S A,* ***Azam S A****, S K Hasan, M Afroz, Waseem R, Islam A, Parveen S & Kazim S N.* Novel chimeric vectors harboring hepatitis B viral promoter and reporter gene demonstrated liver-specific significance. **Future Virology, 2022.**

3. *Z I Siddiqui , **S A Azam** , W H Khan, M Afroz , S R Farooqui , F Amir, M I Azmi, A Anwer, S Khan , M Mehmankhah , S Parveen , S N Kazim.* An *in vitro* Study on the Role of Hepatitis B Virus X Protein C-Terminal Truncation in Liver Disease Development. **Frontiers in genetics, 2021 Mar 12;12**

4. *Siddiqui Z I, Farooui S R,* ***Azam S A*** *Afroz M, Wajid S, Parveen S, Kazim S N*. A comparative study of hepatitis B virus X protein mutants K130M, V131I, KV130/131MI to investigate their roles in fibrosis, cirrhosis and hepatocellular carcinoma. **J viral Hepatitis 2017; 00: 1-11.**
   Note: Some figures in this research paper were published as the cover image of this journal.
5. ***Azam S A****, Siddiqui Z I, Reyaz S et al.* Synthesis of small interfering RNA expression cassette to target surface gene of Hepatitis B Virus. **Journal of proteins and proteomics, 2013, 4(2).**

6. *Afroz M, Alam J, Farooqui S R,* ***Azam S A****, Siddiqui Z I, Kazim S N.* Lamivudine associated rtV1911 mutation within viral polymerase reduces the production of surface protein of Hepatitis B virus. **Journal of proteins and proteomics, 2013, 4(2).**

7. ***Azam S A****,Siddiqui Z I, Farooqui S Ret al.* G1896A mutation in genotype D of Hepatitis B Virus stabilizes the RNA stem loop structure. **Journal of Natural science, Biology and Medicine, 2011, 2(2).**

8. *Siddiqui ZI,* ***Azam S A****, Afroz M, Farooqui S R, Kazim S N.* Hepatitis B Virus Isolates of Genotypes A and D from Indian Population Harbor Consistent Loci of Variations. **Journal of Natural science, Biology and Medicine, 2011, 2(2).**

9. *Farooqui S R, Afroz M,* ***Azam S A****, Siddiqui Z I, Kazim S N*. Presence of stop codon mutation responsible for premature truncation of precore protein among HBeAg positive patients. **Journal of Natural science, Biology and Medicine, 2011, 2(2).**

10. *Afroz M, Farooqui SR, Siddiqui ZI,* ***Azam S A,*** *Kazim S N.* Basal Core Promoter (BCP) Mutations With Respect to Hepatitis B Virus Genotypes and Serologic Status. **Journal of Natural science, Biology and Medicine, 2011, 2(2).**

Poster Presentation:

Presented poster ***"Targeting the surface gene of Hepatitis B virus by gene silencing"*** *in "****National conference on Recent trends in Molecular Virology"*** organised by Centre for Interdisciplinary research in Basic Sciences, Jamia Millia Islamia, New Delhi in 2014.

Workshops Attended:

1. *Three days* ***Flow Cytometry workshop: Basics, Apoptosis, Cell cycle, Immunophenotyping and data analysis*** *jointly organized by Flow Cytometry solutions and PERD centre at B.V Patel Pharmaceutical Education and Research development (PERD) centre, Ahmedabad from 18th-20th , July, 2019.*

2. *Three days hands on workshop on* ***Molecular Characterization of Microorganisms****, organized at division of Biotechnology, CytoGene Research & development, Lucknow, U.P., from 9th to 11th November, 2018.*

Conferences Attended:

1) Emerging trends in biotechnology and drug discovery held at Institute of genomics and Integrative biology (CSIR), New Delhi in 2017.
2) National symposium on biophysics & golden jubilee meeting of the Indian biophysical society, organized by the Centtre for interdisciplinary research in basic sciences, Jamia Millia Islamia, New Delhi in 2015.
3) National conference on Recent Trends in Molecular virology organized by the Centre for interdisciplinary research in basic sciences, Jamia Millia Islamia, New Delhi in 2014.
4) BioWorld 2013: Computational biology in disease and disorder, organized by Kusuma School of Biological sciences, IIT Delhi in 2013.
5) National conference on recent trends in protein structural biology, organized by the Centtre for interdisciplinary research in basic sciences, Jamia Millia Islamia, New Delhi in 2013.
6) 8th International symposium on alcoholic liver and pancreatic diseases and cirrhosis, organized by Institute of liver and biliary sciences New Delhi in 2013.
7) International Interdisciplinary science conference on protein folding and diseases, organized by the Centre for interdisciplinary research in basic sciences, Jamia Millia

Islamia, New Delhi in 2012.

8) Nanobiotechnology: Interface between physics and biology, organized by the Centre for interdisciplinary research in basic sciences, Jamia Millia Islamia, New Delhi in 2010.
9) Interface between chemistry and biology, organized by the Centre for interdisciplinary research in basic sciences, Jamia Millia Islamia, New Delhi in 2009.
10) Chromosome ends and human health and diseases organized by Cell press in New Delhi in 2009.

Personal details:

Father's name: Syed Mohd Akhtar (Retired Principal, PGT Mathematics)

Marital status: Married

Computer proficiency: MS-Word, MS-Excel, MS-Power point

Hobbies: Helping poors, Playing Badminton, Yoga and Running