

SHAHIN SHEIK

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Career Summary

Medical Laboratory Scientist, Clinical Virologist, Genomics Specialist and Stem Cell expert with over 12 years of diverse experience in clinical diagnostics, virology research, outbreak investigation, and next-generation sequencing (NGS). Proven expertise in molecular virology, biosafety management, BSL-2/BSL-3 operations, and leading multi-institutional, international research projects funded by WHO, CDC, and DBT-BIRAC. Skilled in laboratory management, teaching, mentorship, grant writing, and developing surveillance programs for emerging infectious diseases. Recognized for pioneering efforts in Nipah virus outbreak containment and large-scale population genomics projects.

Education

Master of Science (M.Sc.) – Clinical Virology

Manipal Institute of Virology (formerly Department of Virus Research), Manipal University, India

Sep 2012 – Oct 2014 | **CGPA:** 7.95/10 (First Class)

- **Thesis:** *Development of a Quality Control Sera Panel for Dengue IgM ELISA* (Guide: Dr. G Arunkumar)
- **Core Curriculum:** Basic & Systemic Virology, Biosafety & Biosecurity, Epidemiology & Outbreak Investigation, Applied Biostatistics, Molecular Virology, Clinical Virology I & II, Surveillance, Viral Vaccines, Antiviral Pharmacotherapy, Bioinformatics, Virology Laboratory Design & Management, Entrepreneurship.
- **Practical & Field Training:**
 - 600+ hours of laboratory rotations and institutional/industry postings.
 - Hands-on training in ELISA, conventional PCR, real-time PCR, Sanger sequencing, virus propagation, immunofluorescence, TCID50, PRNT, ELISPOT, outbreak investigations, and public health response.
 - Exposure to BSL-2+ practices and clinical rotations.

Bachelor of Science (B.Sc.) – Medical Laboratory Technology

Rajiv Gandhi University of Health Sciences, India

Sep 2007 – Jan 2012 (3 years + 6-month internship)

- **Subjects:** Anatomy, Physiology, Biochemistry I–III, Microbiology I–III, Pathology I–III, Health Care, Sociology, Environmental Science, Ethics, Biostatistics, Database Management, Computer Applications.
- **Clinical Postings:** Hematology, Pathology, Biochemistry, Microbiology, Blood Banking, Cytology.

- **Internship:** Alva's Health Centre, Govt. Hospital Karkala, K.S. Hegde Medical College, AJ Institute of Medical Sciences.
- **Aggregate:** 63%

Work Experience

Medical Laboratory Supervisor

First Stem Cell and Genomics Laboratory, Dubai, UAE | Apr 2023 – Sep 2025

- Supervise day-to-day operations for 10+ technicians, manage workflow, and maintain inventory.
- Lead staff training in genomic technologies, safety protocols, and regulatory compliance.
- Implement process improvements to optimize efficiency.
- Expertise in **NIPT** workflows (cfDNA extraction, library preparation, sequencing, data analysis).
- Skilled in qPCR (QuantStudio 5), Sanger sequencing, Thermo GeneStudio S5 Prime, MGI G50.
- Human Induced Pluripotent Stem Cells (hiPSC) culture & cardiomyocyte differentiation.
- MSC/HSC isolation from cord blood/tissue.
- MSC isolation from from adipose tissue.
- Commercially manufacturing of mammalian cells in a cGMP certified (ISO 5) environment.
- Scientific writing, assay validation, reporting.
- Mensenychmal stem cell isolation from Camel Umbilical cord wharton jelly and placental tissues.

Senior Laboratory Technologist

G42 Healthcare, Abu Dhabi – Emirati Genome Project | Apr 2021 – Mar 2023

- Processed >500,000 samples for large-scale population genomics.
- Library preparation and sequencing on Illumina NovaSeq 6000, MGI T7/T10, and Oxford Nanopore PromethION.
- Performed qualitative/quantitative nucleic acid analysis and data QC.

Senior Research Officer (Project Coordinator) & Clinical Virologist

Manipal Institute of Virology, India | Nov 2015 – May 2021

- **Roles & Promotions:** Research Assistant → Study Manager → Laboratory Manager → Research Officer → Senior Research Officer.
- Managed international projects funded by CDC, WHO-SEARO, DBT-BIRAC on emerging infectious diseases.
- Coordinated surveillance programs for influenza, chikungunya, KFD, Nipah, Zika.
- Supervised >150 staff and managed BSL-2/BSL-3 operations.
- Quality Manager, Biosafety Officer, Fire Warden, Alumni Representative.
- Led set-up of new campus with advanced BSL-3 labs.

- Awarded by Chief Minister of Kerala for Nipah outbreak containment (2018).
- Conducted Illumina MiSeq sequencing, flow cytometry, grant writing, reporting to funders.
- Grants management - eRA Commons (NIH and CDC), BIRAC (DBT)

Laboratory Technologist

Aster DM Healthcare, Dubai | May 2015 – Sep 2015

- Performed clinical diagnostics in Hematology, Immunology, Biochemistry, Pathology.

Laboratory Technologist

Yenepoya University Medical College Hospital, India | Feb 2012 – Jul 2012

- Worked across Hematology, Pathology, Biochemistry, Immunology, Blood Banking departments.

Teaching & Mentorship Experience

- Delivered lectures on **Basic & Systemic Virology, Flow Cytometry, Lab Design, Cell Culture Techniques, Parasitology, Molecular Diagnostics, Diagnostic Virology** to UG, PG, and doctoral students.
- Guided/co-guided **8 MSc Clinical Virology students** for final-year dissertations.
- Conducted short-term certificate courses in Classical & Advanced Diagnostic Virology, Cell Culture, and Virus Isolation Techniques.

Technical Skills

Molecular & Genomic Assays:

QIAamp manual extraction, QIAsymphony®, MagNA Pure®, Veriti® Thermal Cycler, Agarose gel electrophoresis, QuantStudio 5/6/7, Illumina MiSeq & NovaSeq 6000, MGI T7/T10, Oxford Nanopore PromethION, ABI 3500XL Sequencer.

Virology & Immunology Techniques:

Transfection in BSL-2/BSL-3, TCID50, Hemagglutination Inhibition, PRNT, Neutralization Assay, ELISA, ELISPOT, Immunofluorescence, Luminex MAGPIX cytokine assays, Flow Cytometry (Beckmen Coulter DxFlex, BD Accuri C6 Plus).

Dry Lab Skills:

EpilInfo 7, SPSS v16, MEGA 6.0, ClustalW, BLAST (NCBI), FLOWJO, ArcGIS, R, Python, DRAGEN pipeline (NGS data analysis), Geneious, Microsoft Excel & PowerPoint.

Certifications & Specialized Training

- **Wellcome Connecting Science Fellowship – Cancer Genome Analysis Asia**
Wellcome Genome Campus, Hinxton, UK (held at Khon Kaen University, Thailand) (2025)
- R for biologists (2025)
- DHA Licensure – Medical Laboratory Technologist (2014)
- NABL Assessor Training – ISO 15189 Standards
- BSL-3 Containment Laboratory Commissioning (RISKREN, Singapore)
- Research Methodology & Biostatistics (MAHE, Manipal)
- ArcGIS 2: Essential Workflows
- Flow Cytometry (Design, Data Analysis & Applications)
- Workshop on University of Santa Cruz (UCSC) Genome Browser (2020)
- Protecting Human Research Participants - The National Institutes of Health (NIH) Office of Extramural Research (2016)

Publications & Book Chapters

- Molecular Epidemiology of Enteroviruses Associated with Hand, Foot and Mouth Disease in South India – Archives of Virology (2022)
- Current Status of Chikungunya in India – Frontiers in Microbiology (2021)
- Genetic Analysis of Enterovirus D68 – Journal of Medical Microbiology (2021)
- Adaptive Immune Responses in Humans During Nipah Infection – Clinical Infectious Diseases (2019)
- Outbreak Investigation of Nipah Virus Disease, Kerala – Journal of Infectious Diseases (2018)
- Epidemiology of Dengue in India - outcome of a facility based acute febrile illness (AFI) surveillance (2018)
- **Book Chapter: COVID-19: A Multidimensional Response – Community Spread and Public Health Prevention (2021)**

Poster presentations

- Validating GMP-conform cryopreservation of human umbilical cord tissue for downstream isolation of wharton's jelly MSCs – ISSCR, Hong Kong 2025
- Clinical and Virological profiles of Chikungunya from Southern, Western and eastern states of India – Virocon 2020
- Human adenovirus infection among acute respiratory illness cases in India during June 2014–July 2017 – Virocon 2018
- Hepatitis A outbreak traced back to ice used in fruit juice in Nellikuzhi panchayat, Ernakulam district, Kerala state – Virocon 2018
- Epidemiological dynamics of dengue virus in Shivamogga, Karnataka – Virocon 2018

- Evaluation of Fever Surveillance in the Integrated Disease Surveillance Program, Hosanagara, Shivamogga District, Karnataka, India-2016 – TEPHINET 2018

Scientific Reports & Presentations

- Co-authored AFI Surveillance Reports (2016, 2017) – Manipal University
- Poster Presentations at ViroCon 2021, TEPHINET 2018, IVS 2017 on chikungunya, fever surveillance, and hepatitis A outbreak investigations.

Professional Memberships

- Life Member – Clinical Laboratory Professional Association (CLPA), India
- Member – American Society for Microbiology (ASM)
- Licensed Medical Laboratory Professional – Dubai Health Authority (DHA)

Awards & Honours

- Commendation Award by Chief Minister of Kerala for Nipah virus outbreak containment (2018).

Studies and researches done

- Adaptive immune response in human during acute and chronic Chikungunya virus infection
- Adaptive Immune Responses in Humans During Nipah Virus Acute and Convalescent Phases of Infection

Keywords

Clinical Virology, NGS, Illumina, MGI, Oxford Nanopore, Biosafety, BSL-3, Project Management, Grant Writing, Molecular Diagnostics, Outbreak Response, Stem Cell Culture, qPCR, ELISA, Sequencing, Immunology, Flow Cytometry, Data Analysis, Teaching, Surveillance, Quality Management, Mesenchymal Stem Cells, Hematopoietic stem cells, iPSC, cardiomyocytes.