

# Dr. Amruth Kaleem Basha, PhD

Molecular Biologist | Experimental & Translational Medicine

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## PROFESSIONAL SUMMARY

Dedicated and highly skilled molecular biologist with a PhD in Experimental and Translational Medicine. Over 3 years of experience in molecular diagnostics, cancer research, and biotechnology. Expertise in advanced laboratory techniques including PCR, DNA/RNA extraction, monoclonal antibodies production, and flow cytometry. Published in high-impact journals and recognized for leading cross-functional research teams. Strong analytical, communication, and multilingual skills.

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## KEY ACHIEVEMENTS

- **5+ Peer-Reviewed Publications**, contributing to cancer immunotherapy and vaccine development strategies.
  - Led a cross-functional research team on **microRNA analysis**, improving data analysis accuracy by **25%**.
  - Collaborated with **Charles River Italia** to implement humane research methods in animal studies.
  - Spearheaded a research initiative on **microRNA in cancer progression**, securing a **20% increase** in research funding.
  - Presented research on **COVID-19** and **Glioblastoma Multiforme (GBM)** at international conferences, receiving high recognition.
  - Managed a multi-center study on immune response variations, contributing to the development of an effective vaccine.
  - Improved laboratory quality control protocols, increasing data accuracy by **40%**.
  - Identified **Neo-antigens** using mass spectrometry, aiding in the development of a peptide-based vaccine for GBM.
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## RESEARCH EXPERIENCE

### Doctorate Researcher

**University of Insubria | Nov 2021 – Sep 2024 | Varese, Italy**

- Prepared samples and assisted Expert's to Conduct **Mass spectrometry (MS)** analysis to identify neo-antigens, aiding in vaccine development for GBM.
- Researched **Cyclin T1 isoforms** and **HIV** and contributed to vaccine strategy development for oral squamous cell carcinoma.
- Supervised undergraduate students in laboratory techniques and experimental protocols.

### Intern

**Charles River Italia | Jun 2023 – Sep 2023 | Lecco, Italy**

- Worked with humane research protocols for mice and rat models.
- Participated in minimally invasive procedures and biological sample collection.

### Research Assistant

**University of Siena | Aug 2019 – Feb 2020 | Siena, Italy**

- Explored **microRNA expression** in Paget's disease and advanced diagnostic techniques.
- Collaborated on sequencing data analysis and cDNA preparation.

### Intern

**Regional DNA & Serology Department | Apr 2016 – Aug 2016 | India**

- Assisted forensic scientists with **DNA and serology analysis**.

### Undergraduate Research Projects

**2014 – 2017 | India**

- Conducted research in **poultry feed safety, DNA profiling, and Protein analysis**.
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## TECHNICAL SKILLS

### Laboratory Techniques:

- PCR, DNA/RNA extraction, monoclonal antibody production, immunohistochemistry, mass spectrometry sample preparation, HLA-typing, Transfections, Infections, immunoprecipitation, tissue culture, viral vector production.
- Flow cytometry, Western blot, ELISA, Hybridoma fusion, Cell culture, protein purification

### Computer Skills:

- NCBI, DAVID, Python, RStudio, GraphPad Prism, Flowjo
- MS Office (Word, Excel, PowerPoint), SAP, Adobe Photoshop

### Specialized Skills:

- Mice handling (subcutaneous, intraperitoneal, intracranial injections, BAL), organ and cell harvesting, Genotyping
- DNA sequencing, qPCR, STR analysis, Gel electrophoresis

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## EDUCATION

### PhD in Experimental and Translational Medicine

University of Insubria | 2024

### Master's Degree in Medical Biotechnology

University of Siena | 2020

### Bachelor's Degree in Biotechnology, Microbiology, Chemistry

Loyola University | India | 2017

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## CERTIFICATIONS & TRAINING

- **Open WHO:** Drug-resistant Tuberculosis: Interpreting Rapid Molecular Test Results
- **Diploma:** Supply Chain Management with Distinction
- **Certificate:** Global Environmental Management (Technical University of Denmark) | 95.4%
- **Level 3 HACCP Certificate**
- **Dental Assistant Certificate**

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## PUBLICATIONS

1. Reale, A., Gatta, A., **Shaik, A.** et al. An oncolytic HSV-1 vector induces a therapeutic adaptive immune response against glioblastoma. *J Transl Med* 22, 862 (2024). <https://doi.org/10.1186/s12967-024-05650-5>
2. Alberio, T., Shallak, M., **Shaik, A.K.B.**, Forlani, G. (2024). *A Truncated Isoform of Cyclin T1 Could Contribute to the Non-Permissive HIV-1 Phenotype of U937 Promonocytic Cells*. *Viruses*, 16(8), 1176.
3. Azzi, L., Celesti, F., Chiaravalli, A.M., **Shaik, A.K.B.**, Forlani, G. (2024). *Novel Vaccination Strategies Based on Optimal Stimulation of CD4 T Helper Cells for Oral Squamous Cell Carcinoma*. *Frontiers in Immunology*.
4. Dalla Gasperina, D., Veronesi, G., Castelletti, C.M., **Shaik, A.K.B.**, Forlani, G. (2023). *Humoral and Cellular Immune Response to BNT162b2 COVID-19 Vaccine Booster in the Elderly*. *IJMS*.
5. Forlani, G., Shallak, M., Gatta, A., **Shaik, A.K.B.**, Accolla, R.S. (2023). *The NLR Member CIITA: Master Controller of Adaptive and Intrinsic Immunity and Tool in Cancer Immunotherapy*. *BJ*.