

Alaleh Valiallah

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Educational Background

M.Sc. Biotechnology — Malek-Ashtar University, Tehran (2018–2020)

GPA: 16.97/20 ($\approx 3.72/4$) — Thesis Grade: Excellent

Thesis: Rapid and Accurate Detection of *E. coli* O157:H7 Using LAMP

Developed a LAMP-based diagnostic assay with high specificity and rapid turnaround.

Produced 2 paper and 1 conference presentation from thesis work.

B.Sc. Cellular & Molecular Biology – Microbiology — Alzahra University

GPA: 16.43/20 (3.6/4)

PUBLICATIONS

- Valiallah, A., et al. PLGA Nanoparticles as Drug Delivery Systems in Leishmaniasis Chemotherapy. Current Medicinal Chemistry, 2024. (Nanomedicine, drug delivery) <https://doi.org/10.2174/0929867331666230823094737>
- Valiallah, A., et al. Optimization for Rapid Detection of *E. coli* O157:H7 Using Real-Time LAMP. Research in Molecular Medicine, 2022. (Molecular diagnostics, AMR detection) <https://doi.org/10.32598/rmm.10.2.903.8>
- Valiallah, A., et al. Rapid Detection of *E. coli* O157:H7 Using Multiplex PCR. Chulalongkorn Medical Journal, 2022. (PCR diagnostics) [66\(1\)](#).

Conference Papers/Workshop Attended

- Chitosan Nanoparticle-Based Therapeutics for MDR Bacteria. 3rd Int. Conf. on Nanotechnology & Nanoscience (2023).
- Aptasensor-Based Detection of Environmental Pollutants. 3rd Conf. on Environmental Science & Sustainable Development (2020).

Teaching Assistant

- Medical Microbiology: Bacterial culture, biochemical identification, antibiogram testing.
- Antimicrobial Resistance: Assisted lectures; supervised student mini-projects on MDR pathogens.
- Nanobiotechnology: Supported lab sessions on nanocarrier preparation and characterization.
- Molecular Biology: Guided PCR, gel electrophoresis, and basic cloning techniques.
- Diagnostic Microbiology: Trained students in LAMP, qPCR, and PCR-based pathogen detection.

Research Experience

EESD Molecular Biology Lab, Shahid Rajaee Teacher Training University, Tehran

2019–2025

- Optimized experimental protocols and research methodologies for molecular and microbiological studies.
- Performed cloning, DNA analysis, and molecular assays to support ongoing research projects.
- Contributed to study design, data interpretation, and manuscript preparation.

Alzahra University, Tehran, Iran

2016 – 2017

- Managed lab operations, maintained equipment, and ensured availability of critical reagents.
- Assisted in research publications and academic presentations.
- Supported training and supervision of new lab members in sample preparation and analysis.

Honors & Achievements

- Registered TA-eae gene sequence in [NCBI GenBank \(MW584345\)](#) — only M.Sc. student in department to achieve this (2022).
- Being among the first 4% participants in Master Degree Entrance Exam of Molecular Biotechnology.

Professional Memberships

- American Society for Microbiology (2024–Present)
- Iranian Association of Environmental Education and Sustainable Development (2016–Present)

Work experiences

Editorial Board Member

Roshd Biology Education Journal, Tehran — May 2024–Present

- Review manuscripts for scientific accuracy, clarity, and methodological rigor.
- Contribute to editorial decisions and support publication of high-quality scholarly work.

Medical Laboratory Technician

Hospital, Tehran — Dec 2017

- Conducted bacteriology, serology, and urinalysis tests, including antibiotic susceptibility assays (disc diffusion, MIC).
- Ensured precise diagnostic reporting and collaborated with clinicians on infection-related cases.

Skills

Molecular Biology & Laboratory Techniques

- Bacterial Culture and Antibiogram Testing
- Genetic Engineering (DNA Cloning)
- PCR, RT-PCR, and LAMP Assays
- DNA/Plasmid Extraction and RNA Isolation
- Protein Purification and Quantification

Research & Project Management

- Literature Review and Scientific Writing
- Grant and Proposal Preparation
- Presentation and Communication Skills
- Cross-disciplinary Collaboration

Technical & Software Tools

- Sequence Alignment (BLAST, Clustal Omega, MEGA)
- Primer Design and Gene Annotation Tools

Selected Graduate & Undergraduate Coursework:

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Molecular Biology (17.5/20), Microbiology I (20/20), Microbiology II (19/20),

Molecular Biotechnology (19/20), Biotechnology Fundamentals (18.75/20),

Molecular Biotechnology Lab (19/20), Viral & Bacteriophage Genetics (19.5/20)

Language skill

- English: TOEFL iBT 99 — taken at an official test center (Khatam University Test Center), November 1, 2025.
- Persian: Native.