

Zahra Alipour

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EDUCATION

B.S. Biological sciences — *Shahid Beheshti University*

SEPTEMBER 2018 – MARCH 2022

- **GPA:** 3.6/4 | **Average Grade:** 17.63/20 | **3.95/4 in the last two consecutive years**
- **Related course-work (scale: 0- 20):** Statistics in Biology: 17.25 | Computer applications in Life Sciences: 18 | Biochemistry I & Lab: 15.25- 19 | Biophysics: 19 | phycology & Lab: 17.75 – 20 | Microbiology & Lab: 17 - 16 | Cellular Biology & Lab: 19.25 - 18 | Biochemistry II & Lab: 18.78 - 18.5 | General Virology: 18.5 | Human Genetics & Lab: 20 -20 | Human Physiology & Lab: 20 - 20 | Molecular Biology: 17.5 | Radiation Biology: 17 | Plant Genetics and Biotechnology: 19.5 | Evolution: 19.25 | Thesis: 20 |

High School Diploma — *National Organization for Development of Exceptional Talents*

RESEARCH EXPERIENCE

On-going Research Project — *Department of Plant Sciences and Biotechnology, Shahid Beheshti University*

DECEMBER 2022 - PRESENT

Supervisor: Dr. Mehrabian

- Developing a comprehensive protocol to define the characteristics of Medical Grade Honey (MGH), including collection, contamination, sterilization, production, and storage.
- Analyzing the physicochemical, legal, and safety aspects of MGH to distinguish it from regular honey.

Remote Intern — *School of Cancer & Pharmaceutical Sciences, King's College London*

NOVEMBER 2022

Supervisor: Dr. Honarmand Ebrahimi

- Acquired a comprehensive understanding of molecular docking principles;
- Practiced utilizing PyRx and PyMol software for virtual screening of small molecules against protein targets.

Intern — *GenIran Laboratory*

Essential Lab Skills and Molecular Genetics Techniques

NOVEMBER 2021 - DECEMBER 2021

- Trained in biosafety protocols and familiarized with common instruments used in molecular biology lab
- Acquired skills in nucleic acid purification and quantification, primer designing, and PCR-based techniques such as PCR-RFLP, ARMS PCR, and Tetra-ARMS PCR
- Learned about gel electrophoresis methods for separating nucleic acids, cDNA synthesis, and real-time PCR applications for clinical diagnosis and mRNA quantitation, Sanger sequencing analysis for determining the sequence of DNA RNA.

Intern— *GenIran Laboratory*

Introduction to Bioinformatics

OCTOBER 2021- NOVEMBER 2021

- Utilized various bioinformatics applications and tools such as BLAST and primer designing
- Applied database searching skills using NCBI and PubMed
- Analyzed various sequences and performed phylogenetic analysis using different formats, restriction site analysis, and ORF.

Intern— GenIran Laboratory

Cell Culture techniques

AUGUST 2021- SEPTEMBER 2021

- Proficient in cell culture techniques, including primary and secondary cell lines and passage procedures.
- Experienced in freezing and thawing cells to ensure viability and long-term storage.
- Skilled in performing toxicology tests in cell culture, specifically utilizing the MTT assay.
- Proficient in human and cancer cell culture techniques, including maintenance and handling of various cell lines.
- Demonstrated ability to accurately perform MTT assays to assess cell viability and proliferation.

Research Assistant — Department of Plant Sciences and Biotechnology, Shahid Beheshti University

JANUARY 2019 - JANUARY 2020

Supervisor: Dr. Ghotbi Ravandi

- Extracted, purified, and determined phytohormones and enzymes;
- Carried out protein assays, extracted RNA and DNA, and performed quantitative real-time PCR;
- Recorded outcomes and wrote lab reports;
- Evaluated data with SPSS and MS Excel, and generated statistical and graphical outputs.

PUBLICATION(S)

Alipour, Z., Zarezadeh, S., Ghotbi-Ravandi, A.A., Advances in drug delivery techniques facilitate the clinical translation of antiviral phytochemicals, 2023, 5th international conference on biology and earth science. (Conference paper, oral presentation), <https://civilica.com/doc/1649721/>

Alipour, Z., Zarezadeh, S., Ghotbi-Ravandi, A.A., 2023, Potential of anti-coronavirus plant secondary metabolites in covid-19 drug discovery to replace repurposed drugs: a review, Planta Medica. (Accepted Manuscript)

Alipour, Z., Hajihassai H., Mehrabian, A., Honey medical grading: a review by new approach. (In Preparation)

LABORATORY SKILLS

Cell Culture: Aseptic technique, Cell line maintenance, Media preparation, Cell counting and viability assessment.

Molecular Biology: DNA extraction and purification, PCR, qPCR, cloning, and sequencing.

Plant Physiology: Plant tissue culture and transformation, RNA sequencing, Plant stress response analysis

COMPUTER SKILLS

Data Analysis: Excel, SPSS

Programming Languages: Python (Libraries used: Pandas, NumPy, Matplotlib)

Bioinformatics: BLAST, ClustalW, Gene expression analysis and genomic data visualization.

CAMPUS INVOLVEMENT AND LEADERSHIP EXPERIENCE

Assistant Editor and Editorial Board Member — Synapse Student Science Journal, Shahid Beheshti University

2019 - 2021

- Guided and mentored a team of students in technical and scientific editing for the 30th edition of the journal, ensuring high-quality content and adherence to publication deadlines.

- Assisted in reviewing and selecting manuscripts for publication, utilizing excellent attention to detail and communication skills. Collaborated with editorial board members to develop and maintain editorial policies, while upholding the highest standards of academic integrity.

Charity Work for Imam Ali's Popular Students Relief Society — *Festival of Harekat, Shahid Beheshti University*
FEBRUARY 2019

- Managed and organized fundraising for low-income students by selling handmaid bags and potted plants.

VOLUNTEERING OR PAID WORKING EXPERIENCE

Math, Chemistry, and Biology Volunteer Tutor — *UPchieve*

NOVEMBER 2022 - PRESENT

- Through online private tutoring, I work directly with students from low-income households to help them overcome academic challenges by implementing effective learning strategies and creative teaching methods.

Content Creator and Social Media Manager — *Biotechnetwork*

JUNE 2022 – PRESENT

AWARDS AND HONORS

Master's Position – [Phytochemistry / Dr. Mehrabian's Lab / Department of Plant Sciences and Biotechnology], awarded for academic excellence and research potential. - 2023

Ranked in the top 3% in university entrance exam - 2018

Won Persian poetry award awarded by NODET - 2016

Ranked 1st in laboratory competitions among high school students of Khorasan Razavi province – 2014

LANGUAGES

English: C1 (IELTS band score: 7.5 (L: 8.5 R: 8.5 W: 6.5 S: 7))

Farsi: Native