Artin Mehrabani

Email: artin.mehrabani2004@gmail.com **| Google Scholar:** Artin Mehrabani **| Research Portfolio:** Artin Mehrabani - Research Portfolio

RESEARCH INTERESTS

- **Medical Genetics.**
- **Non-Invasive Diagnostics and Liquid Biopsies.**
- **Computational Biology and Personalized Medicine.**
- **Translational Biotechnology.**

RESEARCH EXPERIENCE

ARTICLE TITLE	STATUS	JOURNAL	IMPACT FACTOR	DATE	SUPERVISOR NAMES
Identifying Differentially Methylated Sites for Methylation-Sensitive qPCR-based NIPT of Trisomies 13 and 18	Published *DOI:* 10.4103/abr.abr_37_25	*Journal of Advanced Biomedical Research*	1	Dec 2025	Prof. Mohammad Hossein Modarressi
Association Between First Trimester of Pregnancy Medication Use and Fetal DNA Fraction in Maternal Plasma: Clinical Implications for Non-Invasive Prenatal Screening Reliability	Under Peer Review	*Journal of Ultrasound in Obstetrics and Gynecology*	6.3	Jul 2025	Prof. Mohammad Hossein Modarressi & Prof. Mehran Habibi-Rezaei
Optimizing NIPT Scheduling and Cell-Free Fetal DNA Prediction via Machine Learning Models Based on Fetal-Maternal Data	In Progress				Assoc. Prof. Kaveh Kavousi

- *Identifying Differentially Methylated Sites for Methylation-Sensitive qPCR-based NIPT of Trisomies 13 and 18:*
  - **Role:** Data Curation (equal contribution), Investigation (supporting), Writing – Review & Editing (supporting).
  - **Details:** Gained experience in literature review and collaborative primer design.

- *Association Between First Trimester of Pregnancy Medication Use and Fetal DNA Fraction in Maternal Plasma: Clinical Implications for Non-Invasive Prenatal Screening Reliability*:
  - **Role:** Investigation (lead), Conceptualization (equal contribution), Data Curation (equal contribution), Writing – Original Draft (equal contribution), Formal Analysis (supporting), Writing – Review & Editing (supporting).
  - **Details:** Developed skills in data collection from Genome-Nilou laboratory, conceptualizing research ideas based on extensive literature review, data analysis in Excel, and statistical analysis with SPSS.

- *Optimizing NIPT Scheduling and Cell-Free Fetal DNA Prediction via Machine Learning Models Based on Fetal-Maternal Data*:
  - **Role:** Investigation (lead), Data Curation (lead), Conceptualization (equal contribution), Writing – Original Draft (equal contribution).
  - **Details:** Acquired expertise in data gathering from Genome-Nilou and Pars Genome laboratories and researching the relationship between machine learning and NIPT improvement.

Research Assistant:

Specialized PhD Project in Modarressi Lab, [Department of Medical Genetics, School of Medicine, TUMS](#):

- *Differential Methylation Signatures in Fetal-Maternal Cell-Free DNA: A Novel Epigenetic Framework for Non-Invasive Prenatal Screening of Trisomy 13 and 18* – **Supervisor:** [Prof. Mohammad Hossein Modarressi](#), Feb 2024 – Aug 2025.
    - **Role:** Assistant to a PhD candidate in Medical Genetics, contributed to laboratory procedures and experimental work.
    - **Details:** Hands-on experience in DNA extraction and epigenetic marker identification techniques.

EDUCATION

[University of Tehran](#), Tehran, Iran.
B.Sc. in **Biotechnology**, Sep 2022 – Jul 2026 (Expected).
GPA: 3.3/4.0

INTERNSHIPS & PRACTICAL EXPERIENCE

- **Internship: Research and Development (R&D) Department, [Gene Dorpham Pars Company](#)** – Specializing in advanced medical products for diagnostics and therapeutics, affiliated with [Genome-Nilou laboratory.](#)
    - Optimization of cfDNA extraction kit protocols, Mar 2025 – Oct 2025.
- **Technology Assistant: National Technology Assistant Programme, [University of Tehran Science & Technology Park.](#)**
    - Collaborated with Ideal Nature Biotechnologists Company – a biotechnology startup, to transform academic research into commercially viable products – **Supervisor:** [Dr. Masoumeh Malek](#), Jul 2025 – Oct 2025.

CERTIFICATIONS & WORKSHOPS

- **Comprehensive Course on Regenerative Medicine – [Royan Institute](#)**, Aug 2024 – Jan 2025:
    - Cell Culture.
    - Spectrophotometry.
    - Chromatography.
- **Laboratory Techniques Workshop** – Department of Medical Genetics, Tehran University of Medical Sciences:
    - SDS-PAGE.
    - ARMS-PCR.
- **Computational Skills Workshop – [Department of Bioinformatics, Institute of Biochemistry and Biophysics](#)**, University of Tehran:
    - Python Programming (Pandas, Scikit-learn for Classical ML).
    - Linux Command-Line Interface.
    - NGS Data Analysis.

AWARDS & HONORS

- **Recipient of "Product-Oriented Artificial Intelligence Projects" Research Grant, awarded by Tehran University of Medical Science for the research proposal titled: "*Optimizing NIPT Scheduling and Cell-Free Fetal DNA Prediction via Machine Learning Models Based on Fetal-Maternal Data*".**
- **Competitively selected as a Technology Assistant for the National Technology Assistant Programme at the University of Tehran Science & Technology Park.**
- **Outstanding Teaching Assistant award for team leadership by faculty.**
- **Member of the Union of Iranian Biologists.**
- **Member of the [Iranian Biology Society](#).**

PUBLICATIONS & CONFERENCES

- **Co-Translator & Project Coordinator –** *Biochemistry Laboratory: Modern Theory and Techniques* **(Persian Edition, 2024) – Head of Student Translators Committee, School of Biology, University of Tehran.**

- **Participant – 23rd National & 11th International Iranian Congress of Biology, Sep 9–11, 2024.**

SKILLS

CATEGORY	SKILLS
Laboratory & Molecular Biology Techniques	PCR (Conventional & Real-Time), DNA Extraction, Gel Electrophoresis, NanoDrop, Primer Design
Computational & Bioinformatics Skills	Bioinformatics Analysis Tools
Software & Data Analysis	SPSS, Microsoft Excel (PivotTable, Data Visualization), EndNote
Languages	Persian (Native), English (TOEFL IBT: 103/120)

TEACHING EXPERIENCE

Department of Biology, University of Tehran

COURSE NAME	INSTRUCTOR	DATE
Mathematics	Dr. Alireza Hosseini	Sep 2023 – Jun 2024
Structural Biochemistry	Dr. Shahrokh Safarian	Sep 2024 – Jan 2025
Metabolism Biochemistry	Dr. Mehran Habibi-Rezaei	Feb 2025 – Jun 2025
Basic Genetics	Dr. Ali Farazmand	Feb 2025 – Jun 2025
Genetics Laboratory	Dr. Nazanin Andalib	Feb 2025 – Feb 2026
Molecular Genetics	Dr. Kolsoum InanlooRahatloo	Oct 2025 – Feb 2026
Biostatistics	Dr. Masoumeh Malek	Oct 2025 – Feb 2026

Roles:
- **Led problem-solving sessions.**
- **Designed and administered exam questions.**
- **Graded quizzes.**
- **Mentored students in academic projects and poster presentations.**
- **Assisted with DNA extraction and PCR training.**
- **Provided guidance on primer design.**
- **Introduced relevant articles and topics for student presentations.**
- **Co-organized an SPSS workshop.**
- **Designed and evaluated statistical problem sets.**