

Meisam Madadi

+98 9190640364 - Tehran, Iran
Email: maysam.madadi@gmail.com
[Google Scholar](#)

Last updated: January 2025

EDUCATION

► University of Tehran

M.Sc. in MEMS (micro-electromechanical systems)
Department of Interdisciplinary Technology, Faculty of New Sciences and Technologies,
Tehran, Iran

Thesis: Design and Fabrication of Lab on a Disc microfluidic system for blood components separation and pathogens monitoring

Sep. 2016 – Sep. 2019

Overall GPA: **3.47/4**, Last Year's GPA: **3.68/4**

► Islamic Azad University of Eslamshahr

B.Sc. in Mechanics Engineering,
Department of Mechanical Engineering, Faculty of Engineering, **Tehran, Iran**

Sep. 2009 – Feb. 2014

Overall GPA: **2.94/4**, Last Year's GPA: **3.64/4**, GPA of the last 3 semesters: **3.45/4**, Last Two Years' GPA: **3.38/4.0**

► Modarres High School, Tehran, Iran

Diploma in Mathematics and Physics

Sep. 2004 – Jun. 2007

Overall GPA: **17.10/20**

RESEARCH INTERESTS

• MEMS/NEMS Engineering

- Microfabrication
- Lab on a Chip
- PMMA/PDMS Devices

- Design and Fabrication of Microfluidic Devices
- Lab on a Disc

• Biomedical Engineering (BME)

- BioMEMS
- Particle Separation
- Circulating Tumor Cells (CTC) Isolation

- Cancer Research
 - Blood Analysis
-

PUBLICATIONS

• Preprints

- ▶ **Madadi, M.**, Madadi, A., Zareifar, R., & Nikfarjam, A. (2025). High-efficiency centrifugal microfluidic device for label-free isolation of HT29 human colorectal cancer cells from whole blood.
- ▶ **Madadi, M.**, Madadi, A., & Nikfarjam, A. (2025). A new geometric pattern based on the Boycott effect to accelerate blood sedimentation and processing in the Lab on Disc devices.

• Journal papers

- ▶ **Madadi, M.**, Madadi, A., Zareifar, R., & Nikfarjam, A. (2023). [A simple solvent-assisted method for thermal bonding of large-surface, multilayer PMMA microfluidic devices](#). *Sensors and Actuators A: Physical*, 349, 114077.
- ▶ Mousavi, M., Moradian, S., Pourhakkak, P., Zhang, G., Habibi, M. M., **Madadi, M.**, & Ghasemi, J. B. (2022). [Fabrication of S-scheme heterojunction g-C₃N₄-nanosheet/ZnMoO₄ nanocomposite with high efficiency in photocatalytic N₂ fixation and Cr \(VI\) detoxification](#). *Journal of Materials Science*, 57(20), 9145-9163.
- ▶ **Madadi, M.**, Fathipour, M., & Ghasemi, J. B. (2021). [Separation of human granulocytes and mononuclear cells from whole blood using percoll on a centrifugal microfluidic disc](#). *Microchemical Journal*, 167, 106316.

• Conference papers

- ▶ Esmaeilzadshali, H., Koohsorkhi, J., **Madadi, M.**, Ghasemi Kordlar, A., (2022), [Patterned Synthesis of Titanium Dioxide Nanorods](#), 3th OGP International Conference on the new technologies in the oil, gas and petrochemical industries (NTOGP), pp. 163-170.

RESEARCH EXPERIENCE

Fall 2019 – Summer 2021

- MEMS and NEMS Laboratory - Electrical and Computer Engineering (ECE) Department, University of Tehran, Tehran, Iran
Under supervision of Prof. Morteza Fathipour
 - ▶ Research on microfluidic chips
 - ▶ Design and implement integrated microfluidic networks on 'Lab on a Disc' systems
 - ▶ Manufacturing of an experimental centrifuge stand using a rotor as a set-up to implement disc spin protocols
 - ▶ Research on blood cells and studying on-disc methods for cell separation
 - ▶ Study of cell preparation and staining protocols for working on human blood samples

Fall 2021 – Up to now

- MEMS and NEMS Laboratory - Faculty of New Sciences and Technologies, University of Tehran, Tehran, Iran
Under supervision of Prof. Alireza Nikfarjam
 - ▶ Studying different fabrication methods of bioMEMS devices
 - ▶ Research on direct bonding methods of PMMA-PMMA and PMMA-PDMS substrates
 - ▶ Analysis and testing of polymer chips fabricated with Pressure-sensitive adhesive (PSA)

- ▶ Testing different methods of polymer surface treatment (solvent-assisted and oxygen plasma methods)
 - ▶ Research on different methods of CTC isolation
 - ▶ Carrying out standard methods of cell culture, preparation, and fluorescent staining
 - ▶ Investigating the inertial forces affecting the movement of particles in a micro-channel
 - ▶ Numerical simulation of microfluidic and particle movement behavior
 - ▶ Carrying out standard soft lithography techniques using SU photoresist mold to fabricate PDMS chips
-

PRACTICAL EXPERIENCE

- ▶ DC-Sputtering
 - ▶ Evaporation systems (EBeam, Thermal)
 - ▶ Mask producing and reduction
 - ▶ Lithography
 - ▶ Methods of Si and SiO₂ Etching (Wet Etch, RIE)
 - ▶ Methods of Diffusion
 - ▶ Working with Thermal and Field emission SEM instruments
 - ▶ Micromachining with CO₂ laser cutting machine
-

HONORS

- ▶ One of the top two MEMS students of 2016 entries who achieved an excellent grade (20/20) for the master's thesis
-

SKILLS

- **Computer:**
 - ▶ COMSOL Multiphysics/ CorelDRAW/ Auto CAD®
 - **Language:**
 - ▶ **Persian:** as a native language
 - ▶ **Turkish (Azerbaijani):** Fluent (Second Language)
 - ▶ **English:** Fluent
 - ▶ **Arabic:** Familiar (High-school knowledge in addition to the similarities with Persian)
-

EXTRACURRICULAR INTERESTS

- ▶ Reading, Music, Movie, photographing, Hiking, Football
-

REFERENCES

- **Prof. Alireza Nikfarjam**

Associate Professor, Faculty of New Sciences and Technologies, University of Tehran

Email address: a.nikfarjam@ut.ac.ir

Web page: <https://cist.ut.ac.ir/~a.nikfarjam>

● **Prof. Morteza Fathipour**

Professor, Faculty of Electrical and Computer Engineering, University of Tehran

Email address: mfathi@ut.ac.ir

Web page: <https://ece.ut.ac.ir/~mfathi>

► **More references will be available on request**