

## Mahyar Dahmardeh

Phone: +98-...  
+98-...

Email: [mdahmardeh@ut.ac.ir](mailto:mdahmardeh@ut.ac.ir)

Website: <https://sites.google.com/site/...>

Address: Thin Film Laboratory, Department of Electrical and Computer Engineering,  
Faculty of Engineering,  
University of Tehran,  
Tehran, Iran

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### Research Interests

Micro/Nano Electro Mechanical Systems (M/NEMS) and Bio M/NEMS, Device Design,  
Organic Light Emitting Diode (OLED), Solar Cells, Shape Memory Alloy (SMA),  
Micro Fabrication, Carbon Nano Tubes (CNT), Very large Scale Integration (VLSI),  
High Frequency Integrated Circuits, Embedded Systems

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### Education

<b>Undergraduate</b>	Bachelor of Applied Science in Electrical and Electronic Engineering, Department of Electrical and Computer Engineering, Faculty of Engineering, University of Tehran, Tehran, Iran.	Sep 2011– Aug 2015
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### Main Courses Taken:

Electrical Circuits I, Electrical Circuits II, Communication  
Systems I, Electronics I, Electronics II, Electronics III,  
Device Fabrication Lab, Electromagnetic Fields & Waves,  
Linear Control Systems, Filter and Circuit Synthesis,  
Introduction to Biomedical Engineering, Modern Physics,  
Digital Logic Design, Electrical Machines I, Electrical  
Machines II, Electrical Circuits Lab, Electronics Lab I,  
Physics Lab I, Physics Lab II, Physics of electronic Devices,  
Digital Logic Design Lab, Computer Architecture,  
Industrial Electronics, BS Project I (Bachelor Degree  
Qualification project), Physics of Electronic Devices,  
Industrial Training, Physiology I.

## High School

Allameh Helli High School, under the supervision of NODET

(National Organization for Developing Exceptional Talents)

Tehran, Iran

Sep. 2007 – Jul. 2011

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## Selected Projects

- *Design, Simulation, and Fabrication of MOSFET Transistors*, Advisor: Dr. Kolahdouz, Fall 2013.
- *Simulation and Fabrication of SAW-based Biosensors; its applications in studying the proliferation of HT-29 and SW-48 cancer cells*, Advisors: Prof. Seyed-Shamsoddin Mohajerzadeh, Dr. Abdolabad, Spring 2014.
- *Simulation of MEMS Medical Stent and Staple Using Shape Memory Alloy*, Advisor: Prof. Seyed Kamaledin Setarehdan, Spring 2014.
- *Design, Simulation, and Fabrication of Solar Cell Structures with Various Coatings and Layers*, Advisor: Prof. Shahabadi, Summer 2014.
- *Investigating the 3D MEMS Fabrication From Trisilicon*, Advisor: Dr. Kolahdouz, Summer 2014.
- *Design and Fabrication of a Microfluidic Channel Chip with applications toward cell sorting*, Advisor: Dr. Abdolabad, Fall 2014.
- *Design and Fabrication of a Microfluidic Device for Rapid Mixing and Measurements of Volume Changes of Aquaporin Containing Proteoliposomes*, Advisors: Prof. Andreas Engel and Dr. Kolahdouz. (this project is in process).

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## Publications

**Mahyar Dahmardeh**, Arash Mehdizadeh, “A MEMS optical switch using shape memory alloy”, *CSME International Congress* 2014, June 1-4, University of Toronto, Toronto, Canada (June 2014).

**Mahyar Dahmardeh**, Seyed Kamaledin Setarehdan, “MEMS Medical Stent and Staple Using Shape Memory Alloy”, *Advanced Materials and Nanotechnology* (AMN-7), Nelson, New Zealand (Feb. 2015).

**Mahyar Dahmardeh**, Seyed Kamaledin Setarehdan, “MEMS Medical Stent and Staple Using Shape Memory Alloy”, *International Journal of Nanotechnology* proceedings of AMN-7 (Feb. 2015).

**Mahyar Dahmardeh**, Samaaneh Sheybanifar, Milad Gharooni, Mohsen Janmaleki, Mohammad Abdolabad, “Acoustic wave based biosensor to study the electroacoustic difference between primary (HT-29) and progressive (SW-48) colon cancer cells”, *Sensors and Actuators A:Physical*, (June. 2015)

**Mahyar Dahmardeh**, Milad Gharooni, Mohammad Abdolabad, “Separation of circulating cancer cells (CTC) from blood samples using dielectrophoresis (DEP) and the effect of attaching graphene oxide to CTCs on the efficiency of separation”, *Biosensors and Bioelectronics*, (Sep. 2015)

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## Teaching Experience

### Math Olympiad Teacher

Under the supervision of NODET (National Organization for Developing Exceptional Talents)

### Teacher's Assistant

Teacher's Assistant of “Electric Circuits I”, instructed by Prof. Jalil-Agha Rashed-Mohassel, University of Tehran.

Teacher's Assistant of “Linear Control Systems”, instructed by Prof. Bahrami, University of Tehran.

Teacher's Assistant of “Electronics III”, instructed by Prof. Shoaeei, University of Tehran.

Teacher's Assistant of “Electronics II”, instructed by Dr. Sheikhaei, University of Tehran.

Teacher's Assistant of “Electronics I”, instructed by Dr. Sanaee, University of Tehran.

Teacher's Assistant of “Electric Circuits I”, instructed by Dr. Imaneini, University of Tehran.

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## Working Experience

Thin Film Laboratory	Tehran, Iran, Fall 2013 - Present
Bio-electronic devices Laboratory	Tehran, Iran, Spring 2014 –Present
Device and Process Modeling and Simulation Lab	Tehran, Iran, Fall 2013 – Spring 2014

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## Fabrication Experience

### Fabrication

Resist Spinner, Resist Coater, Mask Photo Setup, Mask Aligner, Wet Etching, Sputter Deposition (RF/DC), E-beam deposition, PECVD, LPCVD, RIE, DRIE, Dektak Profilometer, SEM, TEM, Fluorescence Microscope, Biological Hood, and Incubator.

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## Hardware/ Software Experience

### Hardware

Circuit Design, FPGA, Frequency Sweep Generator, Oscilloscope, Function Generators.

### Software

Comsol, Matlab, Corel Draw, ADS, Hspice, Pspice, ModelSim, Quartus II, Multisim, C/C++, Pascal, Altium Design, SolidWorks, AutoCad, HFSS.

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## Language Skills

Persian: Native

English: (Fluent)-TOEFL iBT: 104 (Reading 28, Listening 27, Speaking 25, Writing 24)

French: A2

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## Honors and Awards

- Offered a master program (master of Medical Eng.) at *KTH Royal Institute of Technology* Fall 2015
  - Offered a master program (master of Biomedical Eng.) at *RWTH Aachen* Fall 2015
  - Offered a master program (master of Nanoscience and Nanotechnology) at *KU Leuven* Fall 2015
  - Offered a master program (master of Integrated Life Science) at Max Planck Institute of Science of Light Fall 2015
  - Offered a master program (master of Biomedical Eng.) at *ETH, Switzerland* Spring 2016
- Accepted as a fellowship researcher at Delft University, Kavli Institute of Nanoscience Summer 2014

Project Title:

Design and Fabrication of a microfluidic device for rapid mixing and measurements of Volume changes of Aquaporin containing Proteoliposomes.

Inviting Professor:

Professor Andreas Engel

- Offered a summer internship position by: Summer 2014  
Prof. Göran Stemme, *KTH University*, Sweden.
  - Offered a summer internship position by: Summer 2014  
Prof. Hyotcherl Ihee, Nano/Bio Structural Dynamics Lab, *KAIST University*, South Korea.
  - Semi-finalist in Iranian National Olympiad of Mathematics, Tehran, Iran 2010
  - Semi-finalist in Iranian National Olympiad of Mathematics, Tehran, Iran 2009
  - Semi-finalist in Iranian National Olympiad of Informatics, Tehran, Iran 2009
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## References

- 1- Dr. Mohammad Abdolabad, University of Tehran, Iran [m.abdolabad@ut.ac.ir](mailto:m.abdolabad@ut.ac.ir)
- 2- Prof. Seyed-Shamsoddin Mohajerzadeh, University of Tehran, Iran [mohajer@ut.ac.ir](mailto:mohajer@ut.ac.ir)
- 3- Dr. Mohammadreza Kolahdouz Esfahani, University of Tehran, Iran [kolahdouz@ut.ac.ir](mailto:kolahdouz@ut.ac.ir)
- 4- Prof. Jalil-Agha Rashed-Mohassel, University of Tehran, Iran [jrashed@ut.ac.ir](mailto:jrashed@ut.ac.ir)
- 5- Prof. Fariba Bahrami, University of Tehran, Iran [fbahrami@ut.ac.ir](mailto:fbahrami@ut.ac.ir)
- 6- Prof. Mahmoud Shahabadi, University of Tehran, Iran [Shahabad@ut.ac.ir](mailto:Shahabad@ut.ac.ir)
- 7- Dr. Samad Sheikhaei, University of Tehran, Iran [sheikhaei@ut.ac.ir](mailto:sheikhaei@ut.ac.ir)
- 8- Prof. Omid Shoaee, University of Tehran, Iran [oshoei@ut.ac.ir](mailto:oshoei@ut.ac.ir)
- 9- Dr. Arash Mehdizadeh, The University of Western Australia, Australia [arash.mehdizadeh@uwa.edu.au](mailto:arash.mehdizadeh@uwa.edu.au)
- 10- Prof. Seyed Kamaledin Setarehdan, University of Tehran, Iran [ksetareh@ut.ac.ir](mailto:ksetareh@ut.ac.ir)
- 11- Dr. Zeinab Sanaee, University of Tehran, Iran [z.sanaee@ut.ac.ir](mailto:z.sanaee@ut.ac.ir)
- 12- Dr. Hossein Imaneini, University of Tehran, Iran [imaneini@ut.ac.ir](mailto:imaneini@ut.ac.ir)