

## ACADEMIC QUALIFICATIONS

University of Tehran, Faculty of New Sciences and Technologies. University of Tehran | UT-  
Department of Interdisciplinary Technologies

2022

**Master of Photonics Engineering**

**Minor: Nano Photonics Engineering**

Master Thesis Title: Design and fabrication of influenza A and influenza B biosensor detection using liquid crystal technology

Overall GPA: 18.86/20 (4/4 in WES Format). 1<sup>st</sup> Ranked in NPE Department

**Selected Courses:**

Polymers and photonics: 20/20 1<sup>st</sup> Ranked

Nano-materials Characterization Methods: 18.5/20 2<sup>nd</sup> Ranked

Optoelectronic Devices: 19.75/20 1<sup>st</sup> Ranked

University of Shahre Qods

2019

**Bachelor of Electrical Engineering**

**Minor: Electronics**

Overall GPA: 19.50/20 (4/4 in WES Format). 1<sup>st</sup> Ranked in Electronics Department

**Selected Courses:**

Electronics circuit: 18.75/20 1<sup>st</sup> Ranked

Linear control systems: 20/20 1<sup>st</sup> Ranked

Industrial control system: 20/20 1<sup>st</sup> Ranked

Applications in electronics: 20/20 1<sup>st</sup> Ranked

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## RESEARCH INTEREST

- Nano Biophotonics, Nanomaterial, Nano photonics, Optics, Liquid Crystals, Biosensors, Nan-Invasive Biosensors, Optoelectronics device, participating in Laboratory work

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## PUBLICATIONS

- Diagnostic platform patent “System for detecting a target material in a sample using Liquid Crystals”-2021

## **CURRICULUM VITAE** **Mahboube Esmailpour**

- Fatemeh Dadfar, Narges Ansari, Mohamad Mohamadimasoudi, Mahboube Esmailpour, Marziye Khodae. “Detection of bacteria using a combination of liquid crystals with graphene – iron oxide nanocomposites”- Iranian Optics and Photonics Conference -2022
- Mahbobe Esmaeilpour, M.G. Shemirani, Ali Godarzi, Mohammad Mohammadimasoudi. “Detection of Tetracycline in milk based on spectroscopy” - International Conference on Nanotechnology & Nanoscience-2021
- M.G. Shemirani, Sadi Hoseini, Ali Godarzi, Mahbobe Esmaeilpour, Mohammad Mohammadimasoudi, Hosein Shahsavarani, Ezeddin Mohajerani. “Transmission spectroscopy to distinguish Normal cells from cancer cells”- Iranian Optics and Photonics Conference -2020
- Mohammadreza G.Shemirani, Mohammad Mohammadimasoudi, Fatemeh Habibimoghaddam, Mahboube Esmailpour, Ali Goudarzi “Rapid and label-free methanol identification in alcoholic beverages based on chiral nematic liquid crystals on a textile” .
- Mahboube Esmailpour, Mohammad Mohammadimasoudi, Mohamadreza G. Shemirani, Ali Goudarzi, Mohammad-Hossein Heidari, Hossein Shahsavarani, Hamid Aghajan, Parvaneh Mehrbod, Mostafa Salehi-Vaziri, Fatemeh Fotouhi. “Rapid, label-free and low-cost diagnostic kit for COVID-19 based on liquid crystals and machine learning” .
- Ali Goudarzi, Mohammad Mohammadimasoudi, M.G Shemirani, Mahboube Esmailpour, Ali Poorkhalil, Ezeddin Mohajerani “CO<sub>2</sub> gas sensor based on liquid crystals” .(ready for submission)
- Ali Goudarzi, Mohammad Mohammadimasoudi, M.G Shemirani, Mahboube Esmailpour. “An airflow sensing based on the orientation of nematic liquid crystal alignment in textile grid”. (ready for submission)
- Fatemeh Habibimoghaddam, Mohammad Mohammadimasoudi, M.G Shemirani, Mahboube Esmailpour, Ali Goudarzi, Delavar Shahbazzadeh, Mahdi Behdani. “Detection and distinction of cobra and viper snake venoms based on the optical observation of liquid crystals suspended in textile grid”. (ready for submission)
- Mohamadreza G. Shemirani , Mohammad Mohammadimasoudi, Mahboube Esmailpour, Ali Goudarzi1, Kelishadi, Hossein Shahsavarani , Hosna Tajvidi Safa , Isa Ahmadalidokht, Hassan Hajghassem “Liquid Crystal as a Simple Biosensor”. (ready for submission)

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### **SEMINARS, CONFERENCES & WORKSHOPS**

- Participated in the validation course in Iran Nanotechnology Innovation Council 2022
- Six months of experience in R&D management at knowledge enterprise 2022
- Participant in the 27<sup>th</sup> Annual Iranian Conference on Optics and Photonics(ICOP) 2021
- Participant in the 13<sup>th</sup> Iranian Conference on Photonics 2021
- Participant in the 2<sup>nd</sup> International Conference on Nanotechnology & Nanoscience 2021
- Participant in the 26<sup>th</sup> Annual Iranian Conference on Optics and Photonics(ICOP) 2020
- Three months internship in Farayand Gostar Kavir Hooshmand Company 2020
- Three months internship in “Imam khomani International Airport” 2010

# CURRICULUM VITAE

## Mahboube Esmailpour

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### ACADEMIC/ PROFESSIONAL HONORS AND ACHIEVEMENTS

- Full Scholarship to Study Master Program, University Of Tehran
- 1<sup>st</sup> Ranked in Nano Photonics Department
- 1<sup>st</sup> Ranked in Electronics Engineering Department
- One US Patent
- Two years of collaboration with the Pasteur Institute of Iran
- Three published conference paper

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### ACADEMIC ASSOCIATIONS AND CLUBS MEMBERSHIPS

- A Member of the Nano-Bio-Photonics Lab at University of Tehran (nanobiophotonics.ut.ac.ir)
- Iran Nanotechnology Innovation Council (INIC)
- A Member of the Photonics of organic matter and polymers Lab at Shahid Beheshti University
- A Member of the Laboratory of Regenerative & medicine biomedical innovations Pasteur Institute of Iran
- Iran Patent Center
- A Member of robotics team of University of Shahre Qods

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### SELECTED ACADEMIC COURSE PROJECTS

#### **MSc project Under Supervision of Dr. Dr. Mohammadi Masoudi**

- Design and fabrication of influenza A and influenza B biosensor detection using liquid crystal technology

#### **Polymers and photonics Course Under Supervision of Dr. Mohammadi Masoudi**

- Presentation of the biosensors based on Liquid crystals

#### **Material Growth and Fabrication Under Supervision of Dr. Tahmasebi**

- Presentation of the high-power biofuel cells based on threedimensional reduced graphene oxide/carbon nanotube micro-arrays

#### **B.Sc project Under Supervision of Dr. Maadani**

- Solar cells and photovoltaic systems

#### **Industrial control system Under Supervision of Dr. Teymoori**

- High voltage pumped storage power plant

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### TEACHING EXPERIENCE

- Tutoring Basic courses for Middle school & High school

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### RESEARCH ASISTANT EXPERIENCE

## CURRICULUM VITAE

### Mahboube Esmailpour

- Research Assistant at Nanobiophotonics Lab, Faculty of New Sciences and Technologies, University of Tehran

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#### PROFESSIONAL SOFTWARE

- Matlab
- Comsol
- Proteus
- Corel
- AVR
- Microsoft Office

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#### LABORATORY EXPERIENCE

- Sputtering & Spin coating
- Spectrometry
- Liquid crystal cell fabrication
- Light microscope with cross polarizer
- Plasmon resonance spectrometry
- Nanodrop
- Lithography
- cell culture

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#### LANGUAGE

- **English Proficiency**  
Expanding  
(I will take the TOEFL Exam soon)
- **Persian:** Native
- **Lori:** Fair

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#### REFERENCES

- Dr. Mohammad Mohammadimasoudi  
Assistant professor at University of Tehran, Faculty of New Sciences and Technologies  
Email: [mo.masoudi@ut.ac.ir](mailto:mo.masoudi@ut.ac.ir)
- Dr. Ezedin Mohajerani  
Professor at Shahid Beheshti University  
Email: [e-mohajerani@sbu.ac.ir](mailto:e-mohajerani@sbu.ac.ir)
- Dr. Seyyed Majid Teymoori  
Assistant professor at University of Shahre Qods  
Email: [mteymoor@yahoo.com](mailto:mteymoor@yahoo.com)