

Abolfazl Mahmoodpoor

Gender: Male
Date of birth: 29/12/1987
Marital status: Married
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<https://scholar.google.com/citations?user=Zc2bifYAAAAJ&hl=en>



Education

- PhD of optics** Sep 2021 – present
ITMO University
Faculty of physics and engineering, Saint Petersburg, Russia
- M. Sc. in Nano Photonics** Sep 2019 – June 2021
ITMO University
Faculty of physics and engineering, Saint Petersburg, Russia
Thesis: “*Development of Organic and Perovskite-Based Enhanced Optoelectronic Devices Employing Ionic Gating*”
Thesis grade: 4/5
- M. Sc. in Photonics** Sep 2010 – Jan 2013
The Shahid Beheshti University (SBU), Laser & Plasma Research Institute, Tehran, Iran
Thesis: “*Design & Manufacturing of Pulsed Transversely Electronic Excitation Co2 Laser with Energy of 700 mj per Pulse and Average Power of 35 Watt.*”
GPA: 17.35/20.00
- B. Sc. In atomic and molecular Physics** Sep 2006 - Jul 2010
The University of Urmia, West Azerbaijan, Iran
GPA: 16.86/20.00

Experiences

- R&D Manager in Adeeco Co.** Jul 2017 – Sep 2019
No.78, 16 Azar st., Tehran, Iran
<http://www.en.adeeco.ir/>
- Design & Development of Industrial Cold Plasma Instruments for Textile Industry (High Power Large Volume DBD, Gliding Arc, Air Plasma Jet & etc.)
 - Design & Construction of Cold Plasma Instruments for Medical Application (Helium Jet, Low Power Finger tube DBD)
 - Design & Construction of High Voltage Switching Power Supply (DC & LF Power Supply)
- R&D Manager in Gases Laser Field in Kavoshyaran Co.** May 2015 – Jan 2017
No. 31, Emamzadeh Davood st, North Isargaran st, Yadegar Highway, Tehran, Iran
<http://ad-kavoshyaran.com/?lang=en>

- Design & Construction of Plasma Concrete Breaker Using of Exploding Wire (<https://www.youtube.com/watch?v=UAblylXITMQ>)
- Design & Construction of PLD System using TEA Co2 Laser for Polymer Deposition
- Design & Construction of High Voltage DC Power Supply Using 50Hz Transformer for Electrospinning Application (up to 60 kV)

Research Assistant

May 2013 - May 2015

High Power Lasers Lab, The University of Tehran, Iran

- Design of CO laser using Cryogenic cooling in overtone band
- Simulation, Design & Construction of Surfeguide microwave Plasma
- Simulation & Design of Surfatron microwave Plasma
- Simulation of Hollow Core & Single Wire Plasma waveguide

Graduate Research Assistant

Sep 2010 – Jan 2013

Electrical Discharge Lab, Laser & Plasma Research Institute, SBU, Iran

- Design and construction of TE Co2 Lasers using of Spark Preionization
- Numerical Simulation of Plasma Sheath Dynamic

Skills

Design & Construction: Mechanical Design, Switching Power Supply, Gas Lasers, Plasma Instruments, Turnery, Numerical calculation

Software: MATLAB, Python, Wolfram Mathematica, COMSOL Multiphysics, SolidWorks, Zemax, Altium Designer, CST Microwave Studio

Journal Publications

[1] **Mahmoodpoor, Abolfazl**, Grigorii Verkhogliadov, Roman Melnikov, Danila S. Saranin, Pavel M. Voroshilov, Daniel Sapor, Ross Haroldson et al. "Ionic Liquid Gating in Perovskite Solar Cells with Fullerene/Carbon Nanotube Collectors." *Energy Technology* 10, no. 9 (2022): 2200485.

[2] Saranin, Danila; **Mahmoodpoor, Abolfazl**; Voroshilov, Pavel; Simovski, Constantin; Zakhidov, Anvar, "Ionically Gated Small Molecule OPV: Interfacial doping of Charge collector and Transport layer", *ACS Applied Materials & Interfaces* 2021 13 (7), 8606-8619.

[3] Panahpour, **A. Mahmoodpoor**, A. V. Lavrinenko, "Refraction enhancement in plasmonics by coherent control of surface plasmons", *Phys. Rev. B* 100, 075427, 2019.

[4] H. Ghomi, **A. Mahmoodpoor**, H. Goodarzi, A. R. Niknam, "Numerical Simulation of Pulsed Plasma Sheath Dynamics Around a Micro-Sized Tip" *J. Physics of plasma*, vol.79, part5, pp.759–764, 2013.

Conference Presentations

[1] Saranin, Danila; **Mahmoodpoor, Abolfazl**; Voroshilov, Pavel; Zakhidov, Anvar, "Numerical modelling of ionically gated small molecule OPV structure". International Conference on Nanophotonics and Metamaterials "METANANO-2020", 09/14/2020 - 09/18/2020.

[2] Hamid Ghomi and **Abolfazl Mahmoodpoor**, "Simulation of the evolution of the pulsed plasma sheath around a micro-sized tip", *International Conference of Plasma Physics and Plasma Technology*, Minsk, Belarus, 2012.

Research Interest

Applications of laser, Laser plasma Interaction, Cold & hot plasma applications, Simulation, Nanophotonics, Metamaterials, Optoelectronic Devices and Solar Cells.

Referees

[1] Makarov Sergey V.

Professor in ITMO university

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[2] Hamidreza Ghomi marzdashti

Associate professor in Shahid Beheshti university

Faculty: Laser and Plasma Research Institute

Department: Photonics

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Department: Photonics

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