



Shadi Rezaei

shadirezae99@gmail.com

Nationality : Iranian (+39) 351 926 5722

About me:

I am a visiting research student at CNR-IPCF in Messina. Furthermore, I am a Ph.D. student in Photonics at the University of Kurdistan. My thesis is about "Investigation of optical forces on a spherical particle in the evanescent field of multilayer waveguide resonance structure", on which I have published an article. I already passed the qualifying exam and all my pre-PhD courses successfully. In addition, I am a college graduate with a Master's Degree in Optics laser, My thesis was about "Effect of geometrically induced anisotropy on the optical spectra of graphene based hyperbolic meta-materials", on which I have published an article. I have also experience in programming including Matlab, Comsol, Wolfram Mathematica; and some experience in Multimedia Builder(MMB) and Illustrator. My research interests are in different areas of photonics, Optical Tweezers, Metamaterials, Metamaterial Waveguides, calculation of optical forces with the Transition matrix method.

EDUCATION AND TRAINING

(Sep 2019 – Present) Kurdistan, Iran

Ph.D. Student in Photonics – University of Kurdistan, Sanandaj, Iran

(2015 – 2017) Tabriz, Iran

MASTER DEGREE in Physics– Atomic and Molecular Physics – Laser Physics - University of Tabriz, Tabriz,

(2009 – 2013) Kurdistan, Iran

Bachelor DEGREE in Physics –University of Kurdistan , Sanandaj, Iran

EXPERIENCE IN

(April 26, 2023 – present) internship at CNR-IPCF, Messina, Italy

External scientific collaboration with the Samothrace project

(*Ecosistema dell'Innovazione* within the PNRR- NextGenerationEU) at CNR-IPCF Messina.

Investigation of optical forces and calculation of trap stiffness of micro plastics at different wavelengths using T- matrix methods and machine learning algorithms.

(2022 – 2023) Kurdistan, Iran

Teaching at laboratory of physics to bachelor students of University of Kurdistan (Sessional instructor)

(2019 – 2022) Kurdistan, Iran

Investigation of optical forces on spherical particles in the evanescent field of a multilayer waveguide resonance structure. Graphene based hyperbolic metamaterials.

HONORS AND AWARDS:

Received Scholarship from Ministry of Science, Research and Technology of IRAN for a 6 months internship at CNR-IPCF Messina.

Received Full Scholarship from University of Kurdistan (Ph.D. Tuition Waver)

Received Full Scholarship from University of Tabriz (M.Sc. Tuition Waver)

Received Full Scholarship from University of Kurdistan (B.Sc. Tuition Waver)

RESEARCH INTEREST:

Optical forces, Optical manipulation, Optical Tweezers, Metamaterials, Metamaterial Waveguides. Graphene, Matlab simulation



LANGUAGE SKILLS

English: Intermediate
TOLIMO (488/677). Listening 50.5/100 Structure 45/100 Reading 51/100 Writing 4.5/6
Msrt (54/100)
Persian: Native or bilingual proficiency
Kurdish: Mother tongue

DIGITAL SKILLS

Programming skills: MATLAB, Wolfram Mathematica, Jupyter Network

Engineering and Optical software: COMSOL

General software: Microsoft office, LaTeX, Origin, MMB, Illustrator

REFERENCES:

Dr. Onofrio M. Maragò, CNR-IPCF, Messina, Italy. E-mail: onofrio.marago@cnr.it

Dr. Maria Antonia Iati, CNR-IPCF, Messina, Italy. E-mail: mariaantonia.iati@cnr.it

Dr. Abdollah Hassanzadeh, Department of Physics, Faculty of Science, University of Kurdistan, Sanandaj, Kurdistan, Iran.
E-mail: a.hassanzadeh@uok.ac.ir

Prof. Fardin Kheirandish, Department of Physics, Faculty of Science, University of Kurdistan, Sanandaj, Iran.
E-mail: f.kheirandish@uok.ac.ir

Prof. Samad Roshan Entezar, Faculty of Physics, University of Tabriz, Tabriz, Iran. E-mail: s.roshan@tabrizu.ac.ir

Messina, 3 November, 2023

Signature


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