

Biography

Name: Reza

Surname: Ghayoor

Email1: r.ghayoor@sharif.edu

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Date of Birth: 14-August-1993

Place of Birth: Isfahan, Iran

Education

BSc. (2011-2015)

University: Malek-Ashtar University of Technology, Shahin Shahr, Iran

Major: Optics and Laser Engineering-Optoelectronic

Thesis: Graphene and its synthesis methods

Supervisor: Dr. A. Mazaheri

M.Sc. (2015-2018)

University: Shiraz University of Technology, Shiraz, Iran

Major: Photonics-Physics

Thesis: Fabrication and characterization of dye sensitized solar cell containing graphene oxide, graphene and graphene quantum dots

Supervisor: Professor. A. Keshavarz

Advisor: Professor. M. N. Soltani Rad, Dr. A. Mashreghi

Ph.D. (2019)

University: Sharif University of Technology, Tehran, Iran

Major: Nanotechnology-Nanophysics

Supervisor: Professor. N. Taghavinia

Research Interests

Nano photonics, Solar cells, Energy storing systems, Sensors, Graphene and 2D materials-based nanostructures

Publications

- 1- Ghayoor, R., Keshavarz, A., Rad, M. N. S., & Mashreghi, A. (2018). Enhancement of photovoltaic performance of dye-sensitized solar cells based on TiO₂-graphene quantum dots photoanode. *Materials Research Express*, 6(2), 025505.
- 2- Ghayoor, R., Keshavarz, A., & Rad, M. N. S. (2019). Facile preparation of TiO₂ nanoparticles decorated by the graphene for enhancement of dye-sensitized solar cell performance. *Journal of Materials Research*, 34(12), 2014-2023.
- 3- Ghayoor, R., Keshavarz, A. (2019). Design of Tunable Devices at Terahertz Frequencies Based on Quasi-Photonic Crystals Incorporated with Graphene. *Communications in Theoretical Physics*, 71(10), 1227-1235.
- 4- Ghayoor, R., & Keshavarz, A. (2019). Transmission Properties of the Periodic Structures Based on Graphene Nonlinear Optical Conductivity in a Terahertz Field. *International Journal of Optics and Photonics*, 13(1), 35-42.
- 5- Soltani, M., Keshavarz, A., Honarasa, G., & Ghayoor, R. (2019). Sensitivity Enhancement of Ring Laser Gyroscope Using Dielectric-Graphene Photonic Crystal. *International Journal of Optics and Photonics*, 13(1), 53-60.

In Submitting

- 1- Monitoring the Spread of Coronavirus Via a High-Quality Surface Plasmon Resonance Biosensor Based on Quasi-Photonic Crystals
- 2- Spark Plasma Sintered YSZ Nano Powder Synthesized by Pechini Method as a High-Quality Gas Sensor Electrode

Conference Papers

- 1- Reza Ghayoor, Alireza Keshavarz, "The properties of terahertz waves in one-dimensional photonic crystals containing graphene and metamaterial", 23th Iranian Conference on Optics and Photonics and 9th Conference on Photonics Engineering and Technology, January 31-February 2, 2017
- 2- Reza Ghayoor, Alireza Keshavarz, "Terahertz Tunable Filters Based on Photonic Crystals Containing Graphene", 5th Iranian Conference on Engineering Electromagnetics, 19th-20th of April 2017.
- 3- Reza Ghayoor, Alireza Keshavarz, Mohsen Hatami "Terahertz Tunable Bandpass Filters Based on Periodic Nanolayers Contains Metamaterial Graphene", 7th International Conference on Nanotechnology (ICN), 7-8 September 2017, Tbilisi, Georgia.

Award and Honors

- 1- First class honors in photonics for postgraduate studies, 2018.
- 2- Taking award from Iran Nanotechnology Initiative Council (INIC) for doing M.Sc. industrial thesis about nanotechnology, 2018.
- 3- Won Iran's National Elites Foundation award (Shahid Sayyad award), 2019.
- 4- Won Iran's National Elites Foundation award (Shahid Ahadi award), 2019.
- 5- Selection of the achievement of our research as journal cover of the “June 28, 2019 issue of Journal of Materials Research”.
- 6- Winning team of designing and manufacturing new generation batteries in “Rahneshan National Talent Competition”, 2021.

Research Experience

- 1- Design and fabrication of solar cells (dye sensitized and perovskite)
- 2- Design and fabrication of high temperature gas sensor by yttria stabilized zirconia-based electrodes
- 3- Design and fabrication of QCM humidity sensor
- 4- Synthesis of graphene oxide, graphene and graphene quantum dots
- 5- Synthesis of nanoparticles by solvothermal and hydrothermal methods
- 6- Member of the research cores of the National Elite Foundation (Shahid Ahmadi Roshan projects)
- 7- Design and simulation of THz filters and photonics devices based on graphene
- 8- Design and simulation of SPR-biosensor based on quasi-photonic crystals

Teaching Experience

- 1- Teaching Assistant, Modern Physics, Physics Department, Shiraz University of Technology, (September 2015 – December 2015)
- 2- Teaching Assistant, Quantum Mechanics, Physics Department, Shiraz University of Technology, (September 2016 – December 2016)
- 3- Teaching Assistant, Physics Lab II, Physics Department, Sharif University of Technology, (September 2020 – December 2020)
- 4- Instructor of Iran Nano Education Foundation (from January 2021 until now)
- 5- Teaching Assistant, Physics Lab II, Physics Department, Sharif University of Technology, (February 2021 – June 2021)
- 6- Teacher of FaraDars E-learning company (Largest Online Education Platform in Iran and the Middle East)

Professional Society Memberships

- 1- Member of Physical Society of Iran (PSI) (2016 till present)
- 2- Member of Optics and Photonics Society of Iran (OPSI) (2016 till present)
- 3- Member of NanoTechnology Society of Iran (2016 till present)

Skills

Software

- 1- MATLAB
- 2- MS Office (Word, Excel, PowerPoint)
- 3- Origin
- 4- Xpert
- 5- Mendeley

Other Skills

- 6- Analysis and interpretation of data extracted from XRD, FT-IR, PL, Raman, UV-Vis and SEM
- 7- Team work
- 8- Resource and laboratory researcher

Related & Training Experiences (Licenses & Certifications)

- 1- 26th empowering course of nanotechnology human resources (Karno) (September, 2017)
- 2- Solid-state lasers workshop, Shiraz University, Malek-Ashtar University of Technology (May, 2014)
- 3- Gas-state lasers workshop, Shiraz University, Malek-Ashtar University of Technology (April, 2012)
- 4- Radiation protection workshop (especially lasers), Atomic Energy Organization of Iran (January, 2016)

References

- 1- Alireza Keshavarz, Professor in Physics Department, Shiraz University of Technology, Shiraz.
E-mail: keshavarz@sutech.ac.ir
- 2- Mohammad Navid Soltani Rad, Professor in Chemistry Department, Shiraz University of Technology, Shiraz. E-mail: soltani@sutech.ac.ir
- 3- Ali Mashreghi, Associate Professor of Materials Science and Engineering, Shiraz University of Technology, Shiraz. E-mail: mashreghi@sutech.ac.ir
- 4- Mohammad Hassan Yousefi, Associate Professor, University Complex of Applied Science, Malek-Ashtar University of Technology, Shahin Shahr. E-mail: mhyphd1@gmail.com