

Name: **Farhad Esmailzadeh**

Email: esfarhad1997ch@gmail.com

Education

BSc.

University: Yasouj University (2015- 2019)

Major: Applied Chemistry

Msc.

University: Iran University of Science & Technology (2019-2021)

Major: Nanoscience and Nanotechnology-Nanochemistry

Thesis: Synthesis and characterization of graphene oxide – modified dextrin nanocomposite and investigation its application as catalyst in multicomponent reaction and adsorbent for removal of environmental pollutants

Supervisors: Prof. Ali Maleki, Prof. Rahmatollah Rahimi

PhD

University: Institute for Nanoscience and Nanotechnology (INST), Sharif University of Technology (2021-present)

Major: Nanotechnology

Research experiences:

Master's Thesis: Synthesis and characterization of graphene oxide – modified dextrin nanocomposite and investigation its application as catalyst in multicomponent reaction and adsorbent for removal of environmental pollutants

Cooperation in research: Preparation of Magnetic Polymer Nanocomposite for chemical catalytic reactions

Cooperation in research: Preparation of SBA-15-based Magnetic Composite for Wastewater treatment

Research Interests:

- Wastewater treatment
- Green Synthesis
- Design and synthesis of Nanocatalyst



- Design and synthesis of Nanocarriers for Drug Delivery
- Bionanocomposites
- Materials Sciences

Skills:

Synthesis methods of materials: Co precipitation, Sol Gel, Solvothermal & Hydrothermal, Ultrasonic, Dip coating & spin coating, organic synthesis, Ball milling, Microemulsion, light, temperature, and air-sensitive synthesis.

Characterization and data analysis: UV-visible, FTIR spectroscopy, NMR spectroscopy, X-Ray Diffraction, Energy Dispersive X-Ray Spectroscopy, Vibrating Sample Magnetometer (VSM), MTT test, Transmission Electron Microscopy & Scanning Electron Microscopy, Atomic Force Microscopy, Thermogravimetric analysis (TGA), Tensile Testing, Mass spectrometry, Gas Chromatography, High Performance Liquid Chromatography, BET analysis, DLS.

Software skills: Spartan, Gaussian & Gauss View, Origin, X'pert High Score, ImageJ, ICDL (advanced), Photoshop, Chem Draw, Design-Expert, Mendeley.

Language:

- Persian (native)
- English (IELTS to be taken soon)

Publications:

1- Hassanzadeh-Afrouzi, F., **Esmailzadeh, F.**, Asgharnasl, S., Ganjali, F., Taheri-Ledari, R., & Maleki, A. (2022). Efficient removal of Pb(II)/Cu(II) from aqueous samples by a guanidine-functionalized SBA-15/Fe₃O₄. *Separation and Purification Technology*, 291, 120956.

2- Hassanzadeh-Afrouzi, F., Dogari, H., **Esmailzadeh, F.**, & Maleki, A. (2021). Magnetized melamine-modified polyacrylonitrile (PAN@melamine/Fe₃O₄) organometallic nanomaterial: Preparation, characterization, and application as a multifunctional catalyst in the synthesis of

bioactive dihydropyrano [2, 3-c] pyrazole and 2-amino-3-cyano 4H-pyran derivatives. *Applied Organometallic Chemistry*, 35(10), e6363.

Honors & Awards:

- 1- Ranked 1rd out of 18 students in M.Sc. (G.P.A.: 19.50/20)
- 2- Ranked 2rd out of 36 students in B.Sc. (G.P.A.: 18.34/20)

References:

- 1- Prof. Ali Maleki, Department of chemistry, Iran University of Science and Technology, Tehran, Iran. (maleki@iust.ac.ir)
- 2- Prof. Rahmatollah Rahimi, Department of chemistry, Iran University of Science and Technology, Tehran, Iran. (rahimi_rah@iust.ac.ir)
- 3- Dr. Ali Reza Akbarzadeh, Department of chemistry, Iran University of Science and Technology, Tehran, Iran. (a_akbarzadeh@iust.ac.ir)