

Name and Surname: Nazanin Amiryaghoubi      Sex: Female      Place of Birth: Iran

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### Education

Education	Thesis work	Total Average	University	Supervisors	Year
Ph.D. in Organic Chemistry	Preparation of polymeric scaffold for bone and cartilage tissue engineering	18.72	Chemistry Department of Urmia University	Prof. Yadollah Omidi and Prof. Nadir Noroozi Pesyan	2016-2021
M.Sc. of Organic Chemistry	Synthesis of styrenic polymeric prodrug of valproic acid as an anti-epilepsy drug	19.57	Chemistry Department of Azad University, Tabriz, Iran	Dr. Mirzaagha Babazadeh	2011-2014
B.Sc. in Pure Chemistry	-----	14.37	Tabriz University	-----	2005-2010

### LABORATORY SKILLS

<b>Synthetic skills</b>	Preparation of polymeric scaffold by free-radical copolymerization and condensation polymerization, Synthesis of magnetic nanoparticles carrier for drug loading, Thermosensitive injectable hydrogel synthesis, Polyester urethane synthesis, Poly propylene fumarate, Synthesis of in situ hydrogels, Targeting Drug Delivery system, Bone and Cartilage Tissue Engineering
<b>Cell culture techniques</b>	Cytotoxicity assays (MTT, Cell viability, DAPI staining, FITC annexin V test), Cell cycle assay and Cellular uptake, Alizarin Red Assay, Toluidine Blue Assay, Alkaline Phosphatase Activity (ALP), RNA extraction, cDNA synthesis, and real-time polymerase chain reaction (R-T PCR)
<b>Material characterization tools</b>	Spectrophotometer UV, Centrifuge, Sonication, FT-IR, <sup>1</sup> H NMR, DSC test, Compression test, Dynamic mechanical analysis, Water Contact Angle, Rehometry, BET, XRD, GPC, TEM, SEM, EDX, DLS, VSM, TGA, AFM, and Drug release test

### Working Experiences

Position	Projects	year	Place of project
Scientific researcher	Preparation of injectable polymer hydrogel for engineering cartilage-joint tissue	2017-2020	Research Center for Pharmaceutical

			Nanotechnology (RCPN) of Tabriz University of Medical Science
Scientific researcher	New synthetic chitosan-based synthetic smart magnetic nanocomposite for targeted treatment of bone cancer	2021-present	Research Center for Pharmaceutical Nanotechnology (RCPN) of Tabriz University of Medical Science
Scientific researcher	Evaluation of the efficacy of in situ gelling hydrogels based on modified gelling gum using click reactions for effective ocular drug delivery	2022-present	Research Center for Pharmaceutical Nanotechnology (RCPN) of Tabriz University of Medical Science
Scientific researcher	Evaluation of the efficacy of in situ gelling hydrogels based on alginate and chitosan prepared by click reaction for local release of doxorubicin for breast cancer chemotherapy	2022-present	Research Center for Pharmaceutical Nanotechnology (RCPN) of Tabriz University of Medical Science
Scientific researcher	Evaluation of the efficiency of in situ temperature sensitive gelling hydrogels based on chitosan polymer and polyvinyl alcohol containing osteogenic compounds using click reactions for bone tissue engineering	2022-present	Research Center for Pharmaceutical Nanotechnology (RCPN) of Tabriz University of Medical Science
Scientific researcher	Evaluation of in situ forming hydrogels based on chitosan and poly (vinyl alcohol) containing osteogenic compounds for bone tissue engineering	2022-present	Research Center for Pharmaceutical Nanotechnology (RCPN) of Tabriz University of Medical Science

## RESEARCH INTERESTS

- Polymeric hydrogel, 3Dprinting and electrospinning method for tissue engineering
- Bone, Cartilage, and Cardiac tissue engineering
- Biological, mechanical, and chemical characterization of scaffold for tissue engineering
- Stem Cells

## AWARDS AND HONORS

First-graduated student in the department of organic chemistry

Azad University

## Seminar Poster Presentation

Conferences	subject	year
The 22nd Iranian Seminar of Organic Chemistry,	Chemical Modification of Styrene-based	2014

Faculty of Chemistry, University of Tabriz	Polymer with Attaching Anti-epilepsy Valproic Acid Group	
The 17th Iranian Seminar of Chemistry, Faculty of Chemistry, University of Rafsanjan	Chemical Modification of Styrene-based Polymer with Attaching Anti-epilepsy Valproic Acid Group	2014
The 27 th Iranian Conference On Organic Chemistry, Urmia University	Injectable chitosan-based smart hydrogel for bone regeneration	2019
The 2nd Nanomedicine & Nanosafety Conference, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran.	Poly (propylene fumarate) based scaffold for cartilage tissue engineering	2020
The 2nd Nanomedicine & Nanosafety Conference, Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran.	Poly (caprolactone) based nanofibers for bone tissue engineering	2020

## COMPUTER EXPERIENCE

Microsoft Office, ChemDraw, CorelDRAW, OriginLab, GraphPad.

## Languages

English, Azerbaijani, Persian, Turkish

## Publication

- 1) Amiryaghoubi SN, Babazadeh M. Novel polymeric prodrugs of valproic acid as anti-epilepsy drugs: Synthesis, characterization and in-vitro evaluation. *Tropical Journal of Pharmaceutical Research*. 2015;14(7):1183-9.
- 2) Amiryaghoubi N, Pesyan NN, Fathi M, Omidi Y. Injectable thermosensitive hybrid hydrogel containing graphene oxide and chitosan as dental pulp stem cells scaffold for bone tissue engineering. *International journal of biological macromolecules*. 2020;162:1338-57.
- 3) Amiryaghoubi N, Fathi M, Pesyan NN, Samiei M, Barar J, Omidi Y. Bioactive polymeric scaffolds for osteogenic repair and bone regenerative medicine. *Medicinal research reviews*. 2020;40(5):1833-70.
- 4) Amiryaghoubi N, Fathi M, Barzegari A, Barar J, Omidian H, Omidi Y. Recent advances in polymeric scaffolds containing carbon nanotube and graphene oxide for cartilage and bone regeneration. *Materials Today Communications*. 2021:102097.
- 5) Amiryaghoubi N, Pesyan NN, Fathi M, Omidi Y. The design of polycaprolactone-polyurethane/chitosan composite for bone tissue engineering. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*. 2021:127895.

- 6) Amiryaghoubi N, Fathi M, Adibkia K, Barar J, Omidian H, Omid Y. Chitosan-Based Biomaterials: Their Interaction with Natural and Synthetic Materials for Cartilage, Bone, Cardiac, Vascular, and Neural Tissue Engineering. *Engineering Materials for Stem Cell Regeneration*: Springer; 2021. p. 619-50.
- 7) N. Amiryaghoubi, M. Fathi, J. Barar, H. Omidian, Y. Omid, Recent advances in graphene-based polymer composite scaffolds for bone/cartilage tissue engineering, *Journal of Drug Delivery Science and Technology* (2022) 103360.
- 8) Samiei M, Fathi M, Barar J, Fathi N, Amiryaghoubi N, Omid Y. Bioactive hydrogel-based scaffolds for the regeneration of dental pulp tissue. *Journal of Drug Delivery Science and Technology*. 2021:102600.
- 9) Fathi M, Abdollahinia ED, Amiryaghoubi N, Omidian H, Omid Y. Magnetic nanoparticle-polymer nanohybrids. *Magnetic Nanoparticle-Based Hybrid Materials*: Elsevier; 2021. p. 183-208.
- 10) N. Amiryaghoubi, M. Fathi, J. Barar, Y. Omid, Hydrogel-based scaffolds for bone and cartilage tissue engineering and regeneration, *Reactive and Functional Polymers* (2022) 105313.
- 11) M. Samiei, E.D. Abdollahinia, N. Amiryaghoubi, M. Fathi, J. Barar, Y. Omid, Injectable thermosensitive chitosan/gelatin hydrogel for dental pulp stem cells proliferation and differentiation, *BIOIMPACTS*, (2022).