



First name: Mohammad

Last name: Irani

Recent position: Assistant Professor in Shahid Beheshti University of Medical Sciences

SBUMS Medical Nano-Technology & Tissue Engineering Research Center, Tehran, Iran

Present Address

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DOB: 04/06/1986

Age: 39Yrs

Marital Status: Married, one children

EDUCATIONAL QUALIFICATIONS:

Examination	Board/University	Year of Passing	Percentage of Marks
PhD (chemical engineering- Nano-biotechnology)	Amirkabir University (Tehran, Iran)	2017	92.4
M.Sc (chemical engineering- Process and pharmaceutical engineering)	Tehran University (Tehran, Iran)	2012	85.8

Academic Records:

Google Scholar link: <https://scholar.google.com/citations?user=57ZILDgAAAAJ&hl=en>

Hindex:49 citation 7626

Scopus link: <https://www.scopus.com/authid/detail.uri?authorId=25223098000>

Hindex:45 citation 6222

Research Gate link: https://www.researchgate.net/profile/Mohammad_Irani3

My name (Mohammad Irani) was recognized as one of the World's *Top 1% Scientists* List created by Web of Science (ESI) since 2023.

Research and teaching interests

Nano-biomedicine

Drug delivery

Cancer therapy

Tissue engineering

Implantable devices

Publications:

- **Irani, M.**, Abadi, P.G., Ahmadian-Attari, M.M., Rezaee, A., Kordbacheh, H., Goleij, P. In vitro and in vivo studies of Dragon's blood plant (*D. cinnabari*)-loaded electrospun chitosan/PCL nanofibers: Cytotoxicity, antibacterial, and wound healing activities (2024) International Journal of Biological Macromolecules, 257,128634.
- Najjari, S.T., Asefnejad, A., Abadi, P.G.S., Nemati, N.H., **Irani, M** (Corresponding author). Tri-layered Polycaprolactone/Taxol/Gelatin/5-FU Nanofibers Against MCF-7 Breast Cancer Cells (2024) Journal of Polymers and the Environment, 32 (2), 791-802.

- Mohammad Taghizadeh Kashani, L., Ahmadian-Attari, M.M., **Irani, M** (Corresponding author). Antibacterial and anticancer activity of poly (ϵ -caprolactone)/doxorubicin/*Costus arabicus* L. root smoke composite nanofibers against lung cancer (2024) *Journal of the Textile Institute*, 115 (6), 866-876.
- Kordbacheh, H., Bahmani, E., Bybordi, **Irani, M** (Corresponding author). Co-delivery of Bcl-2 siRNA and doxorubicin using poly(ϵ -caprolactone)/chitosan nanofibers for the treatment of lung cancer (2024) *Journal of Drug Delivery Science and Technology*, 99, 105994.
- Eivazzadeh-Keihan, R., Saadatidizaji, Z., Mahdavi, M., Maleki, A., **Irani, M.**, Zare, I. Recent advances in gold nanoparticles-based biosensors for tuberculosis determination (2024) *Talanta*, 275, 126099.
- Roshanfekar Rad, L., Faramarzi, H., Anbia, M., **Irani, M** (Corresponding author). Adsorption of doxorubicin and 5-Fluorouracil anticancer drugs from aqueous media using MIL-101-NH₂ (Co/Fe) bi-metal–organic framework (2024) *Separation and Purification Technology*, 339, 126597.
- Abadi, P.G.S., **Irani, M** (Corresponding author). Electrospun metal–organic frameworks-loaded nanofibrous carriers for drug delivery systems (2023) *Chemical Engineering Journal*, 474, 145840.
- Rad, L.R., **Irani, M.** (Corresponding author), Anbia, M. Removal of anticancer drugs using NH₂-MIL-125(Ti)/cobalt ferrite nanorods composite (2024) *Journal of Environmental Chemical Engineering*, 12 (5), 113302.
- Tavasoli, A., **Irani, M.** (Corresponding author), Sheikholeslami, S., Mohammad, S. Carbon nanomaterials for photothermal therapy (2023) *Nanomaterials for Photodynamic Therapy*, 307-348.
- GhaderiShekhiAbadi, P., **Irani, M.** (Corresponding author), Noorisepehr, M., Maleki, A. Magnetic biosensors for identification of SARS-CoV-2, Influenza, HIV, and Ebola viruses: a review (2023) *Nanotechnology*, 34 (27), 272001.
- Abasalta, M., Zibaseresht, R., Yousefi Zoshk, M., Foroutan Koudehi, M., **Irani, M.**, Hami, Z. Simultaneous loading of clarithromycin and zinc oxide into the

chitosan/gelatin/polyurethane core-shell nanofibers for wound dressing (2023) Journal of Dispersion Science and Technology, 44 (14), 2664-2674.

- Rad, L.R., **Irani, M.** (Corresponding author), Anbia, M. Membrane filtration and adsorption of doxorubicin hydrochloride and fluoxetine hydrochloride from water using polysulfone/MIL-125-NH₂ (Ti) nanofibrous membranes (2023) Journal of Molecular Liquids, 408, 125429.

- Abdollahi, A., Ansari, Z., Akrami, M., Haririan, I., Dashti-Khavidaki, S., **Irani, M.**, Kamankesh, M., Ghobadi, E. Additive Manufacturing of an Extended-Release Tablet of Tacrolimus. (2023) Materials, 16 (14), 4927.

- **Irani, M.** (Corresponding author), Nodeh, S.M. PVA/ κ -carrageenan/Au/camptothecin/pegylated-polyurethane/paclitaxel nanofibers against lung cancer treatment (2022) RSC Advances, 12 (25), 16310-16318.

- Qavamnia, S.S., Rad, L.R., **Irani, M.** (Corresponding author). Incorporation of Hydroxyapatite/Doxorubicin into the Chitosan/Polyvinyl Alcohol/Polyurethane Nanofibers for Controlled Release of Doxorubicin and Its Anticancer Property (2020) Fibers and Polymers, 21 (8), 1634-1642.

- Alisani, R., Rakhshani, N., Abolhallaj, M., **Irani, M.** (Corresponding author) Adsorption, and controlled release of doxorubicin from cellulose acetate/polyurethane/multi-walled carbon nanotubes composite nanofibers (2022) Nanotechnology, 33 (15), 155102.

- Shahrousvand, M., Hajikhani, M., Nazari, L., Aghelinejad, A., Shahrousvand, M., **Irani, M.** Preparation of colloidal nanoparticles PVA-PHEMA from hydrolysis of copolymers of PVAc-PHEMA as anticancer drug carriers (2022) Nanotechnology, 33 (27), 275603.

- Bahmani, E., Seyyed Zonouzi, **Irani, M.** (Corresponding author) Electrospun polyacrylonitrile/cellulose acetate/MIL-125/TiO₂ composite nanofibers as an efficient photocatalyst and anticancer drug delivery system (2020) Cellulose, 27 (17), 10029-10045.

- **Irani, M.**, Mir Mohamad Sadeghi, G., Haririan, I. Gold coated poly (ϵ -caprolactonediol) based polyurethane nanofibers for controlled release of temozolomide (2017) Biomedicine and Pharmacotherapy, 88, 667-676.

- Faraji Dizaji, B., Khoshbakht, S., Farboudi, A., Azarbaijan, M.H., **Irani, M** (Corresponding author). Far-reaching advances in the role of carbon nanotubes in cancer therapy (2020) *Life Sciences*, 257, 118059.
- Abasalta, M., Asefnejad, A., Khorasani, M.T., Saadatabadi, A.R., **Irani, M** (Corresponding author). Adsorption and sustained release of doxorubicin from N-carboxymethyl chitosan/polyvinyl alcohol/poly(ϵ -caprolactone) composite and core-shell nanofibers (2022) *Journal of Drug Delivery Science and Technology*, 67, 102937.
- Amini, Z., Rudsary, S.S., Shahraeini, **Irani, M** (Corresponding author). Magnetic bioactive glasses/Cisplatin loaded-chitosan (CS)-grafted- poly (ϵ -caprolactone) nanofibers against bone cancer treatment (2021) *Carbohydrate Polymers*, 258, 117680.
- **Irani, M.**, Mir Mohamad Sadeghi, G., Haririan, I. Electrospun biocompatible poly (ϵ -caprolactonediol)-based polyurethane core/shell nanofibrous scaffold for controlled release of temozolomide (2018) *International Journal of Polymeric Materials and Polymeric Biomaterials*, 67 (6), 361-366.
- Azerbaijan, M.H., Bahmani, E., Jouybari, **Irani, M** (Corresponding author). Electrospun gold nanorods/graphene oxide loaded-core-shell nanofibers for local delivery of paclitaxel against lung cancer during photo-chemotherapy method (2021) *European Journal of Pharmaceutical Sciences*, 164, 105914.
- Shikhi-Abadi, P.G., **Irani, M** (Corresponding author). A review on the applications of electrospun chitosan nanofibers for the cancer treatment (2021) *International Journal of Biological Macromolecules*, 183, 790-810.
- Hosseini, L., Mahboobnia, K., **Irani, M** (Corresponding author). Fabrication of PLA/MWCNT/Fe $3O_4$ composite nanofibers for leukemia cancer cells (2016) *International Journal of Polymeric Materials and Polymeric Biomaterials*, 65 (4), 176-182.
- Sharifianjazi, F., **Irani, M.**, Esmaeilkhani, A., Bazli, L., Asl, M.S., Jang, H.W., Kim, S.Y., Ramakrishna, S., Shokouhimehr, M., Varma, R.S. Polymer incorporated magnetic nanoparticles: Applications for magnetoresponsive targeted drug delivery (2021) *Materials Science and Engineering: B*, 272, 115358, .

- Salehi, R., **Irani, M.**., Eskandani, M., Nowruzi, K., Davaran, S., Haririan, I. Interaction, controlled release, and antitumor activity of doxorubicin hydrochloride from pH-sensitive P(NIPAAm-MAA-VP) nanofibrous scaffolds prepared by green electrospinning (2014) International Journal of Polymeric Materials and Polymeric Biomaterials, 63 (12), 609-619.
- **Irani, M.**, Sadeghi, G.M.M., Haririan, I. The sustained delivery of temozolomide from electrospun PCL-Diol-b-PU/gold nanocomposite nanofibers to treat glioblastoma tumors (2017) Materials Science and Engineering C, 75, 165-174.
- Farboudi, A., Nouri, A., Shirinzad, Davaran, S., Akrami, M., **Irani, M** (Corresponding author). Synthesis of magnetic gold coated poly (ϵ -caprolactonediol) based polyurethane/poly(N-isopropylacrylamide)-grafted-chitosan core-shell nanofibers for controlled release of paclitaxel and 5-FU (2020) International Journal of Biological Macromolecules, 150, 1130-1140.
- Zarghami, A., **Irani, M.**, Mostafazadeh, A., Golpour, M., Heidarinasab, A., Haririan, I. Fabrication of PEO/chitosan/PCL/olive oil nanofibrous scaffolds for wound dressing applications (2015) Fibers and Polymers, 16 (6), 1201-1212.
- Salehi, R., **Irani, M.**, Rashidi, M.-R., Eskandani, M., Haririan, I., Davaran, S. Stimuli-responsive nanofibers prepared from poly(N-isopropylacrylamide-acrylamide-vinylpyrrolidone) by electrospinning as an anticancer drug delivery (2013) Designed Monomers and Polymers, 16 (6), 515-527.
- Anaraki, N.A., Rad, L.R., **Irani, M.** (Corresponding author), Haririan, I. Fabrication of PLA/PEG/MWCNT electrospun nanofibrous scaffolds for anticancer drug delivery (2015) Journal of Applied Polymer Science, 132 (3), 41286, .
- Samadi, S., Beheshti, H., **Irani, M.**, (Corresponding author) Aliabadi, M. Fabrication of chitosan/poly(lactic acid)/graphene oxide/TiO₂ composite nanofibrous scaffolds for sustained delivery of doxorubicin and treatment of lung cancer (2018) International Journal of Biological Macromolecules, 110, 416-424.
- Bazzazzadeh, A., Dizaji, B.F., Kianinejad, N., **Irani, M** (Corresponding author). Fabrication of poly(acrylic acid) grafted-chitosan/polyurethane/magnetic MIL-53 metal

organic framework composite core-shell nanofibers for co-delivery of temozolomide and paclitaxel against glioblastoma cancer cells (2020) International Journal of Pharmaceutics, 587, 119674, .

- **Irani, M.**, Mir Mohamad Sadeghi, G., Haririan, I. A novel biocompatible drug delivery system of chitosan/temozolomide nanoparticles loaded PCL-PU nanofibers for sustained delivery of temozolomide (2017) International Journal of Biological Macromolecules, 97, 744-751.

- Habibi Jouybari, M., Hosseini, S., Mahboobnia, K., M., **Irani, M.** (Corresponding author) Simultaneous controlled release of 5-FU, DOX and PTX from chitosan/PLA/5-FU/g-C3N4-DOX/g-C3N4-PTX triaxial nanofibers for breast cancer treatment in vitro (2019) Colloids and Surfaces B: Biointerfaces, 179, 495-504.

- Radmansouri, M., Bahmani, E., Sharifianjazi, F., **Irani, M** (Corresponding author). Doxorubicin hydrochloride - Loaded electrospun chitosan/cobalt ferrite/titanium oxide nanofibers for hyperthermic tumor cell treatment and controlled drug release (2018) International Journal of Biological Macromolecules, 116, 378-384.

- Farboudi, A., Mahboobnia, K., Banihashem, S., Davaran, S., **Irani, M** (Corresponding author). UiO-66 metal organic framework nanoparticles loaded carboxymethyl chitosan/poly ethylene oxide/polyurethane core-shell nanofibers for controlled release of doxorubicin and folic acid (2020) International Journal of Biological Macromolecules, 150, 178-188.

- Ardeshtirzadeh, B., Anaraki, N.A., **Irani, M.** (Corresponding author), Rad, L.R., Shamshiri, S. Controlled release of doxorubicin from electrospun PEO/chitosan/graphene oxide nanocomposite nanofibrous scaffolds (2015) Materials Science and Engineering C, 48, 384-390.

Fellowships and awards:

- My name (Mohammad Irani) was recognized as one of the World's *Top 1% Scientists* List created by Web of Science (ESI) since 2022.

- My name (Mohammad Irani) in chemical engineering and chemistry field has been listed among

the top 2 per cent scientists in the world at 2021.

- Certificate and medal of World Intellectual Property Organization as the best Inventor in 2021
- The second rank of fundamental research of Kharazmi Festival entitled : Metal organic framework nanofibers composites
- Olympiad in Iran award between chemical engineering students
- Ranke 1 in Thesis of Master degree between all of students of Tehran University
- Top book award in industry field “Chemical industry Basics”.

Advising experience

-Assistant professor in Alborz University of Medical Science, Karaj, Faculty of pharmacy (2020-2023)

Research Experience

Supervisor in Membrane technology laboratory (2012-2017)

Supervisor in Nanotechnology based materials (2020-2024)

Teaching Experience: 5.5 Years

Reviewer to various journals such as Chemical Engineering Journal, J Hazardous Materials, International Journal of Biological Macromolecules etc.

Software Skills: MINITAB, MATLAB, Design expert, SPSS, Endnote

Language skills : English (Native), Persian (Native) and Turkish (Native)