

# Leila Gholami

## Postdoctoral Research fellow in Pharmaceutical Nanotechnology (2018-2021).

Nanotechnology Research Center, Institute of Pharmaceutical Technology.  
Mashhad University of Medical Sciences, Mashhad, Iran.

## Education

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### PhD in Molecular Medicine, Pharmaceutical Nanotechnology (2012- 2018). Grade: Excellent

Mashhad University of Medical Sciences, Faculty of Medicine, Mashhad, Iran

PhD thesis: Evaluation and preparation of neural stem cell loaded with chitosan nanoparticle containing super magnetic iron oxide and doxorubicin for targeted treatment of glioblastoma.

### Masters in Biochemistry (2009-2012). GPA=19.06/20

Thesis title: Evaluation of DNA damage induced by polyethyleneimine nanoparticles used in cancer gene therapy with an alkaline single gel electrophoresis (comet) assay.

### Bachelors in practical chemistry (2004-2008).

## Scientific focus area

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Drug/gen delivery, Polymers, Biomaterials, Nanomedicine, cell culture/stem cell

## PEER-REVIEWED PUBLICATION

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- "An overview of polyallylamine applications in gene delivery". L Gholami, A Mahmoudi, R Kazemi Oskuee, B Malaekheh-Nikouei, Pharmaceutical Development and Technology, 1-30,2022.
- Synthesis and characterization of polyethyleneimine-terminated poly( $\beta$ -amino esters) conjugated with pullulan for gene delivery. A Farahpour, N Ramezani, L Gholami, S Askarian, A Banisadr, Pharmaceutical Development and Technology, 1-25,2022.
- Carbon dots: a novel platform for biomedical applications". M Behi, L Gholami, S Naficy, S Palomba, F Dehghani. Nanoscale Advances. **4**, 353-376, 2022.
- "Carbon dots: a novel platform for biomedical applications". M Behi, L Gholami, S Naficy, S Palomba, F Dehghani. Nanoscale Advances. **4**, 353-376, 2022.
- "Recent advances in lung cancer therapy based on nanomaterials: A review". L Gholami, JR Ivvari, NK Nasab, RK Oskuee, T Sathyapalan, A Sahebkar . Current Medicinal Chemistry. DOI: <https://doi.org/10.2174/0929867328666210810160901>
- "T helper type 1 biased Immune responses by PPE17 loaded core-shell alginate - chitosan nanoparticles after subcutaneous and intranasal administration" A Najafi, K Ghazvini, M Sankian, **L Gholami**, Y Amini, S Zare, F Khademi, M Tafaghodi. Life Sciences journal. 282, 119806, 2021
- "Recent advances in lung cancer therapy based on nanomaterials: a review" **L Gholami**, J Rouhani Ivvari, N Khandan Nasab, R Kazemi Oskuee, AH Sahebkar. Current Medicinal Chemistry, DOI: 10.2174/092986738666210810160901. 2021.
- "Mucosal and systemic immunization against tuberculosis by ISCOMATRIX nanoadjuvant co-administered with alginate coated chitosan nanoparticles". A Najafi, K Ghazvini, M Sankian, **L Gholami**, S Zare, A Yousefi Arvand, M Tafaghodi. Pharmaceutical Development and Technology. Revision process. 2021
- "CARBON DOTS: A NOVEL PLATFORM FOR BIOMEDICAL APPLICATION" MR Behi, **L Gholami**, S Naficy , S Palomba, F Dehghani. Nanoscale Advances. Revision process ,2021
- "Role of oxygen vacancies on photo-catalytic activities of green synthesized ceria nanoparticles in Cydonia oblonga miller seeds extract and evaluation of its cytotoxicity effects" B Elahi, M Mirzaee, M Darroudi, R Kazemi Oskuee, K Sadri, **L Gholami**. Journal of Alloys and Compounds 816, 152553, 2020.
- "Preparation, in vitro and in vivo evaluation of PLGA/Chitosan based nano-complex as a novel insulin delivery formulation "F Mohammad pour, F Hadizadeh, M Tafaghodi K Sadri, A H Mohammad pour, M R Kalani, **L Gholami**, A Mahmoudi, J khan Chamani. International Journal of Pharmaceutics 572, 118710, 2019.

- “BR2 cell penetrating peptide improved the transfection efficiency of modified polyethyleneimine” M Akbarzadeh, R K Oskuee, **L Gholami**, A Mahmoudi, B Malaekheh-Nikouei. *Journal of Drug Delivery Science Technology* 53, 101154, 2019.
- “Streptomycin sulfate dry powder inhalers for the new tuberculosis treatment schedule” F Shiezadehab, F Hadizadehade, A Mohammadpour, E Aryan, **L Gholami**, M Tafaghodi. *Pharmaceutical development and technology* 52, 957-967, 2019.
- “Evaluation and comparison of cytotoxicity, genotoxicity and apoptotic effects of poly-L-lysine/plasmid DNA micro- and nanoparticles” E Alinejad-Mofrad, B Malaekheh-Nikouei, **L Gholami**, SH Mousavi, HR Sadeghnia, M Mohajeri, M Darroudi, RK Oskuee. *Human & Experimental Toxicology* 38(8), 983-991, 2019.
- “BR2 and CyLoP1 enhance in-vivo SN38 delivery using pegylated PAMAM dendrimers” A Mahmoudi, MR Jaafari, N Ramezani, **L Gholami**, B Malaekheh Nikouei. *International Journal of Pharmaceutics*, 564, 77-89, 2019.
- “Preparation of Super-paramagnetic iron oxide/doxorubicin loaded chitosan nanoparticles as a promising glioblastoma theranostic tool” **L Gholami**, M Tafaghodi, B Abbasi, M Daroudi, R Kazemi Oskuee. *Cellular physiology* 234(2), 1547-1559, 2018.
- “Green facile synthesis of low-toxic superparamagnetic iron oxide nanoparticles (SPIONs) and their cytotoxicity effects toward Neuro2A and HUioVEC cell lines” **L Gholami**, RK Oskuee, M Tafaghodi, AR Farkhani, M Darroudi. *Ceramics International* 44, 9263–9268, 2018.
- “Investigating the influence of polyplex size on toxicity properties of polyethylenimine mediated gene delivery” M Dabbaghi, **L Gholami**, S Taheri-Bojd, M Balali-Mood, RK Oskuee. *Life sciences* 197, 101-108. 2018.
- “Charge reduction: an efficient strategy to reduce toxicity and increase the transfection efficiency of high molecular weight polyethylenimine” M Rezaee, **L Gholami**, MS Gildeh, M Ramezani, RK Oskuee. *Journal of Pharmaceutical Investigation*, 1-10. 2018.
- “Enhanced gene delivery by polyethyleneimine coated mesoporous silica nanoparticles” H Zarei, R Kazemi Oskuee, MY Hanafi-Bojd, **L Gholami**, L Ansari. *Pharmaceutical development and technology* 24(1), 1-6. 2018.
- “Synthesis, characterization and evaluation of transfection efficiency of dexamethasone conjugated poly(propyleneimine) nanocarriers for gene delivery” B Malaekheh-Nikouei, M Rezaee, **L Gholami**, N Sanjar, Mousav, RK Oskuee, *Pharmaceutical Biology* 56(1), 519-527.2018.
- “Viral vector mimicking and nucleus targeted nanoparticles based on dexamethasone polyethylenimine nanoliposomes: Preparation and evaluation of transfection efficiency” B Malaekheh-Nikouei, **L Gholami**, F Asghari, S Askarian, S Barzegar, *Colloids and Surfaces B: Biointerfaces* 165, 252-261.2018.
- “Auraptene Inhibits Migration and Invasion of Cervical and Ovarian Cancer Cells by Repression of Matrix Metalloproteinases 2 and 9 Activity” K Jamialahmadi, S Salari, N Alamolhodaei, A Avan, **L Gholami**, Gr Karimi. *J Pharmacopuncture*, 21(3), 177–184.2018.
- “Hyperbranched–dendrimer architectural copolymer gene delivery using hyperbranched PEI conjugated to poly(propyleneimine) dendrimers: synthesis, characterization” SJ Alavi, **L Gholami**, S Askarian, M Darroudi, A Massoudi, M Rezaee. *Journal of Nanoparticle Research* 19 (2), 49.2017.
- “The effect of cell penetrating peptides on transfection activity and cytotoxicity of polyallylamine” S Sabouri-Rad, RK Oskuee, A Mahmoodi, **L Gholami**, B Malaekheh-Nikouei. *BioImpacts: BI* 7 (3), 139. 2017.
- “Cholesterol improves the transfection efficiency of polyallylamine as a non-viral gene delivery vector” RK Oskuee, M Ramezanpour, **L Gholami**, B Malaekheh-Nikouei, *Brazilian Journal of Pharmaceutical Sciences* 53 (3). 2017.
- “Dexamethasone conjugated polyallylamine: Synthesis, characterization, and in vitro transfection and cytotoxicity” B Malaekheh-Nikouei, M Rezaee, **L Gholami**, M Behzad, RK Oskuee. *Journal of Drug Delivery Science and Technology* 40, 172-179, 2017.
- “Cationic liposomes modified with polyallylamine as a gene carrier: preparation, characterization and transfection efficiency evaluation” RK Oskuee, A Mahmoudi, **L Gholami**, A Rahmatkhan, B Malaekheh-Nikouei, *Advanced pharmaceutical bulletin* 6 (4), 515.2016.
- “Honey-based synthesis of ZnO nanopowders and their cytotoxicity effects” SJ Hoseini, M Darroudi, RK Oskuee, **L Gholami**, AK Zak, *Advanced Powder Technology* 26 (3), 991-996, 2015.

- “A simple approach for producing highly efficient DNA carriers with reduced toxicity based on modified polyallylamine” RK Oskuee, F Dosti, **L Gholami**, B Malaekheh-Nikouei, Materials Science and Engineering: C 49, 290-296, 2015.
- “Evaluation of genotoxicity and cytotoxicity induced by different molecular weights of polyethylenimine/DNA nanoparticles” **L Gholami**, HR Sadeghnia, M Darroudi, RK Oskuee, Turkish Journal of Biology 38 (3), 380-387, 2014.
- “Food-directed synthesis of cerium oxide nanoparticles and their neurotoxicity effects” M Darroudi, SJ Hoseini, RK Oskuee, HA Hosseini, **L Gholami**, S Gerayli, Ceramics International 40 (5), 7425-7430, 2014.
- “Green synthesis and evaluation of metabolic activity of starch mediated nanoceria” M Darroudi, M Sarani, RK Oskuee, AK Zak, HA Hosseini, **L Gholami**, Ceramics International 40 (1), 2041-2045, 2014.
- “Cationic liposomes-polyallylamine-plasmid nanocomplexes for gene delivery” RK Oskuee, E Mohtashami, **L Gholami**, B Malaekheh-Nikouei, Journal of Experimental Nanoscience 9 (10), 1026-103, 2014.
- “Facile synthesis, characterization, and evaluation of neurotoxicity effect of cerium oxide nanoparticles” M Darroudi, M Hakimi, M Sarani, RK Oskuee, AK Zak, **L Gholami**, Ceramics International 39 (6), 6917-6921, 2013.

## HONORS AND AWARDS

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- Received an incentive grant from the Presidential organization for a thesis on stem cell research, 2015
- Ranked first in comprehensive PhD examination at Mashhad University of Medical Sciences, 2014
- Top Ph.D. student in the department of modern science and technology at, Mashhad University of Medical Sciences, 2012
- Ranked first in Master students at University of Mashhad, 2012

## CONFERENCE PRESENTATIONS

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- Evaluation migration and cytotoxicity of Neural stem cell loaded with chitosan nanoparticle containing super magnetic iron oxide and doxorubicin for targeted treatment of glioblastoma, 2nd National Festival and the International Congress of stem cell and medical reform, Tehran, Iran, 2017
- Cationic liposomes-polyallylamine-plasmid nanocomplexes for gene delivery. 1st Middle East Controlled Release Conference (MECRC 2014), 2014.
- Oral presentation of Viral vector mimicking and nucleus targeted nanoparticles based on dexamethasone polyethylenimine nanoliposomes: Preparation and evaluation of transfection efficiency, Mashhad University of Medical Sciences Research Festival, Mashhad, 2013
- Evaluation of genotoxicity induced by PEI 25KDa nanoparticles with an alkaline single cell gel electrophoresis (comet assay), Mashhad University of Medical Sciences Research Festival, Mashhad, Mashhad (**Best poster presentation**)

## LEADERSHIP AND TEACHING EXPERIENCES

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### *Mentoring and Advising experience*

- Guided 10 Pharm.D undergraduate students towards understanding of scientific methods through molecular biology.
- Advisor for 4 Pharm.D student in their pharmaceutical thesis.

### *Teaching experience*

- Theoretical cell culture and biotechnology courses for MSC and PhD student of medical biotechnology and physiology Ph.D. students at Mashhad Medical University of Sciences, Faculty of medicine (2012-2020)
- Practical tissue culture for B.Sc. students of medical biotechnology, Islamic Azad University of Mashhad (2017-2018)
- Immunology for nursery and midwifery B.Sc. students, Islamic Azad University of Ghuchan, (2014-2015)