Leila Farhoudi, PhD

Cancer Immunology and Immunotherapy Research Center
Ardabil University of Medical Sciences

Tel: +98-914-357-3846
Email: Farhoudil96@gmail.com

Google Scholar
ORCID
LinkedIn
ResearchGate

Professional Summary

PhD graduate in Pharmaceutical Nanotechnology with expertise in advanced drug delivery systems. Experienced in designing nanoparticle-based platforms, including liposomes and polymeric micelles, for therapeutic applications. Skilled in optimizing drug loading, release kinetics, and stability of nanocarriers using analytical and colloidal characterization techniques.
Strong background in controlled release systems, formulation development, and preclinical (in vitro and in vivo) evaluation. Able to work independently and collaboratively in interdisciplinary R&D environments, with experience in innovation and scientific publication.

Education Experience

PhD in Pharmaceutical Nanotechnology (2017- 2024)

Mashhad University of Medical Sciences, Mashhad, Iran

Thesis title: Synthesized and characterized of pH-sensitive polymeric micelles containing Docetaxel and Doxorubicin for the treatment of Breast Cancer In Vitro and In Vivo under supervision of Prof. Dr. Mahmoud Reza Jafari at Mashhad University of Medical Sciences.

- Conducted formulation optimization, characterization, in vitro experiments, in vivo biodistribution, and efficacy testing in cancer mouse model.
- Collaborated with pre-clinical teams on in vivo validation, data interpretation and manuscript preparation

Visiting Researcher

- Visiting Researcher – Experimental Oncology, Erasmus MC, Rotterdam, The Netherlands (2022)
  - Optimized and characterized liposomal nanoparticle systems for cancer applications
  - Collaborated on translational oncology research projects.

M.Sc. in Physical Chemistry, Oct 2012- Jun 2015

University of Mohaghegh Ardabili, Ardabil, Iran

B.Sc. in Chemistry, Oct 2006- Dec 2010

Urmia University, Urmia, Iran

Professional experience

Assistance Professor

Research Assistant / Early-Career Investigator – Cancer Immunology & Immunotherapy

Ardabil University of Medical Sciences, Iran (2024–Present)

- Lead independent cancer nanomedicine research projects

- Supervise Master's and PhD students

- Mentor trainees in experimental design, in vivo cancer models, molecular analysis, and scientific writing

- Coordinate multidisciplinary collaborations and manuscript preparation

Research Experience

Lab Techniques: Preparation and characterization Nanoparticles (Liposome, Micelles, LNP), Stimuli-Responsive System and Active targeting nanoparticles (peptide-conjugate Liposome), Vaccine liposome (Peptide-liposome vaccination), Cell Culture (Cell line maintenance and culture, Cancerous cell lines, MTT assay, Cellular Uptake and Combination Index CI), In Vivo (Mice handling, Cancer model, Biodistribution, Pharmacokinetic).

Techniques: Flow cytometry, DLS, Zeta sizer, UV-Visible, Fluorescent microscopy

Molecular Biology: RNA Extraction, q-PCR Real time

Animal Handling: Small animal handling, Surgery techniques

Software: Microsoft Office, GraphPad Prism, EndNote, Phyton

Project Management: Research design, team collaboration, timeline management

Communication: Presentation skills, scientific writing, cross-functional collaboration.

Technical Expertise

Cancer Biology & Immunotherapy:

- Tumor microenvironment analysis

- Immune evasion and tumor–immune interactions

Nanomedicine & Molecular Analysis:

- preparation of nanoparticles and nano vaccine (liposomes, polymeric micelles, hydrogels)

- Gene expression analysis (qPCR-based profiling)

- apoptosis study and cytotoxicity

In Vivo & In Vitro Techniques:

- cancer mouse models

- Anti-tumour efficacy and survival studies, Biodistribution, pharmacokinetics study

- Cell culture, flow cytometry, fluorescence microscopy.

Publication

- Author of 15 peer-reviewed journal articles, including Nano Today and International Journal of Pharmaceutics
- First author on 5 peer-reviewed publications
- Additional manuscripts under preparation or review
- Google Scholar profile available as Leila Farhoudi

Recent Publication

2026 Zahedipour F, Vahdat-Lasemi F, **Farhoudi L**, Hosseinikhah et al. Combination therapy with VEGFR2 nanoliposomal peptide and paclitaxel in murine models of melanoma: a promising strategy for enhancing the efficacy of cancer immunotherapy. International Immunopharmacology. 2026 Jan 15;169:116008.

2025 Faal Maleki M, **Farhoudi L**, Ebrahimi Nik M, Firouzmand H, et al. A Novel Formulation of Docetaxel-Containing Micelle Surface Modified with Metronidazole to Target Tumor Hypoxia. Bio NanoScience. 2025 Jun;15(2):303.

2025 Vahdat-Lasemi F, **Farhoudi L**, Hosseinikhah SM, Santos RD, Sahebkar A. Angiopoietin-like protein Inhibitors: Promising Prospects for the Treatment of Familial Hypercholesterolemia and Atherogenic Dyslipidemia. Atherosclerosis. 2025 May 2:119235.

2025 Seyedeh Maryam Hosseinikhah, **Leila Farhoudi**, Farshad Mirzavi, Fatemeh Vahdat- Lasemi Leila Arabi, et al, Ultrasound-assisted efficient targeting of doxorubicin to the tumor microenvironment by lyso-thermosensitive liposomes of varying phase transition temperatures, European Journal of Pharmaceutical Sciences.

2024 **Leila Farhoudi**, Hosseinikhah SM, Kazemi-Beydokhti A, Arabi L, Alavizadeh SH, Moosavian SA, MR Jaafari, pH-sensitive polymeric micelles enhance the co-delivery of Doxorubicin and Docetaxel: an emerging modality for treating breast cancer, Cancer Nanotechnology.

2024 **Farhoudi L,** Hosseinikhah SM, Vahdat-Lasemi F, Sukhorukov VN, Kesharwani P, Sahebkar A. Polymeric micelles paving the Way: Recent breakthroughs in camptothecin delivery for enhanced chemotherapy. International Journal of Pharmaceutics. 2024 Jun 25;659:124292.

2024 Hosseinikhah SM, Vahdat-Lasemi F, **Farhoudi L,** Gupta G, Kesharwani P, Sahebkar A. RGD-decorated nanoparticles: therapeutic potential beyond cancer. Journal of Drug Delivery Science and Technology. 2024 Sep 1;98:105924.

2024 Elaheh Mirhadi, Anis Askarizadeh, **Leila Farhoudi**, Mohammad Mashreghi, et al;,The impact of phospholipids with high transition temperature to enhance Redox-Sensitive liposomal doxorubicin efficacy in colon carcinoma model, Journal of Chemistry and Physics of Lipids.

2023 **Farhoudi L,** Fobian SF, Oei AL, Amin M, Jaafari MR, ten Hagen TL. Applications of biomimetic nanoparticles in breast cancer as a blueprint for improved next-generation cervical cancer therapy. Nano Today. 2023 Dec 1;53:102032.

2022 **Farhoudi L,** Kesharwani P, Majeed M, Johnston TP, Sahebkar A. Polymeric nanomicelles of curcumin: Potential applications in cancer. International Journal of Pharmaceutics. 2022 Apr 5;617:121622.

2022 Vakili-Ghartavol R, Mehrabian A, Mirzavi F, Rezayat SM, Mashreghi M, **Farhoudi L,** Kharrazi S, Sadri K, Jaafari MR. Docetaxel in combination with metformin enhances antitumour efficacy in metastatic breast carcinoma models: a promising cancer targeting based on PEGylated liposomes. Journal of Pharmacy and Pharmacology. 2022 Sep 1;74(9):1307-19.

2021 Barani M, Hosseinikhah SM, Rahdar A, **Farhoudi L**, Arshad R, Cucchiarini M, Pandey S. Nanotechnology in bladder cancer: diagnosis and treatment. Cancers. 2021 May 5;13(9):2214.

Reference

1)Prof. Dr. Mahmoud Reza Jaafari
School of pharmacy, Mashhad University of Medical Science, Mashhad, Iran
Tel: +98 915 316 4001, E-Mail:

2)Prof. Dr. Timo Ten Hagen
Laboratory Experimental Oncology, Department of Pathology, Erasmus MC, Rotterdam, the Netherlands.
Tel. +31 (0)6 14 37 58 63,
E-Mail: t.l.m.tenhagen@ersmusmc.nl