Curriculum Vitae

Name: Roghayyeh Vakili-Ghartavol

Gender: Female

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Academic & Administrative Positions

- Assistant Professor, Shiraz University of Medical Sciences
- Vice President of Education, Department of Medical Nanotechnology, School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences
- Head of the Student Research Committee, School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences

Work Experience

2020–2021

R&D Senior, Biosun Pharmed Pharmaceutical Company

Education

2019–2020

Postdoctoral Fellowship, Iran Nanotechnology Innovation Council

Supervisors: Prof. Mahmoud Reza Jaafari, Prof. Seyed Mahdi Rezayat

2014–2019

Ph.D. in Medical Nanotechnology, Tehran University of Medical Sciences, Tehran, Iran

GPA: 19.64/20

Thesis: Preparation of Metformin- and Docetaxel-Loaded Nanoliposomes for Evaluation of Anticancer and Antimetastatic Effects in Metastatic Breast Cancer Models

Supervisors: Prof. Seyed Mahdi Rezayat, Prof. Mahmoud Reza Jaafari, Dr. Reza Faridi Majidi

2008–2011

M.Sc. in Cellular and Molecular Biology, Shiraz University, Shiraz, Iran

Study Focus:

- Cancer Biology: Study of pathways involved in cancer, diabetes, and other diseases.
- Biochemistry: Study of the kinetic processes of various enzymes.
- Biophysics: Study of signaling, cell motility, and transport mechanisms in biological membranes.

2002–2006

B.Sc. in Animal Biology, Tabriz University, Tabriz, Iran

Study Focus:

- Molecular Cell Biology: Study of cellular physiology and mechanisms of cell functions.
- Biochemistry: Study of chemical processes within and relating to living organisms.
- Genetics: Study of the mechanisms of heredity, DNA replication and transcription, and RNA translation into protein sequences.

Industry Relations Projects

Lead Researcher

- Preparation of spray dried liposomal magnesium for capsule dosage form

- Preparation of transfection reagents based on nanoliposomes for use in transfection experiments.

Executive and Research Associate

- Laboratory-to-Pilot-Scale Production of Lyophilized Liposomal Docetaxel and In Vitro and In Vivo Assessment of Antitumor Efficacy in Nude Mice Bearing MDA-MB-231 or SKBR3 Human Breast Carcinoma Tumors

Research Interests

- Utilizing nanoliposomes for cancer therapy

- Preparation of inorganic nanoparticles coated with erythrocyte membranes
- Development of nanoerythrosomes for drug delivery applications
- Diagnostic and therapeutic applications of nanoerythrosomes in biomedical applications
- Diagnostic and therapeutic applications of nanoliposomes in biomedical applications
- Employing nanotechnology in medical and biological research
- Targeted drug and gene delivery using nanotechnology
- Nanoscale diagnostics and therapeutic systems for tumor microenvironment analysis
- Development of nanoparticle-based systems for biomedical applications

Research Experiences

- Collaborated with the patent office as a member of the referee team for patent evaluation at Idea Sazasan Aftab Institute.
- Co-instructor of a liposome preparation workshop alongside Prof. Mahmoud Reza Jaafari at the Summer School organized by the Iranian Society of Nanomedicine.
- Delivered an oral presentation in English at the 2nd International Congress on Nanomedicine and Nanosafety, Tehran University of Medical Sciences.
- Delivered an oral presentation in English at the 8th International Congress on Nanoscience and Nanotechnology (ICNN 2021), Mashhad University of Medical Sciences.
- Member of the executive team and contributor to organizing the 1st Nanomed Festival at Tehran University of Medical Sciences.
- Executive team member and participant in organizing the 8th International Congress on Nanoscience and Nanotechnology (ICNN 2021), Mashhad University of Medical Sciences.
- Executive team member and contributor to organizing the 2nd International Congress on Nanomedicine and Nanosafety (ICNN 2020), Tehran University of Medical Sciences.
- Executive team member and contributor to organizing the 1st International Congress on Nanomedicine and Nanosafety (ICNN 2019), Tehran University of Medical Sciences.
- Manager of the Tehran University of Medical Sciences Pavilion at the Iranian Nanotechnology Exhibition 2014.

Awards

- Selected as one of the top 4 candidates for the Ph.D. program in Medical Nanotechnology, Iran, 2014
- Ranked 2nd in class during Ph.D. program (2014–2019) with a GPA of 19.64/20
- 3rd Prize and Bronze Medal at the 1st TUMS Nanomedicine Festival for Best Research in Nanomedicine, Tehran, Iran, 2019

Skills

- Statistical and Data Analysis Software:

SPSS, GraphPad Prism, CalcuSyn, Origin, FlowJo

- Reference Management:

EndNote, Mendeley

- Office Software:

Microsoft Office Suite (Word, PowerPoint, Excel)

- Scientific Imaging and Analysis:

Image j

- Languages:

English – Fluent

Turkish- Mother Tongue

Articles

https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=roghayyeh+vakili-ghartavol&btnG=

Submitted or under revision articles

- Nanotechnology-Mediated Precision Drug Delivery Strategies for Breast Cancer Treatment
- Biofabricated Hydrogel Composite of Tragacanth Gum and Chitosan Loaded with Copper Oxide Nanoparticles for Enhanced Cutaneous Wound Regeneration

Books

In English

- Chapter: "*Redox and Hypoxia-responsive Nanogels: Smart Systems for Controlled drug Release*" in Nanogels: Fundamentals to Pharmaceutical and Biomedical Applications", ELSEVIER, 2025
- Chapter: " *Nanogels in Drug Delivery for Enhanced Therapeutic Efficacy*" in Nanogels: Fundamentals to Pharmaceutical and Biomedical Applications", ELSEVIER, 2025
- Chapter*: "Bone Regeneration: Current Status and Future Prospects"*, in Bone Tissue Engineering, IntechOpen, 2016.

Authors: Hossein Ghanbari, Roghayyeh Vakili-Ghartavol

In Persian

- Translation*: "Advances in Polymer Science"*, Tehran University of Medical Sciences Press, Tehran, Iran, 2019.

Translators: Roghayyeh Vakili-Ghartavol, Gholamreza Ahmadi, Mostafa Rahvar, Mogde Safari

- Translation*: "Biochemical Methods"*, Islamic Azad University of Boroujerd Press, Boroujerd, Iran, 2014.

Translators: Roghayyeh Vakili-Ghartavol, Nasrin Amiri, Mehdi Koushki

Elite Grants

- Grant No. 4036109
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