

Masoumeh Zahmatkeshan

Personal Profile:



Gender: Female
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EDUCATION

- **2011-2016:** PhD in Medical Nanotechnology (Nanomedicine),
Tehran University of Medical Sciences; Advisors: Prof. Seyed Mahdi Rezayat; Prof. Mahmoud Reza Jaafari
- **2008-2011:** M. Sc. in Medical Nanotechnology (Nanomedicine), Tehran University of Medical Sciences, Tehran, Iran; Advisors: Prof. Saeed Sarkar, Dr. Reza Saber

- **2001-2005:** B. Sc. in Nutrition Sciences,
Shahid Beheshti University of Medical Sciences, Tehran, Iran

RESEARCH INTERESTS

- Nanomedicine
- Pharmaceutical Nanotechnology
- Targeted therapy
- Targeted drug delivery
- Bioconjugation
- Cancer nanotechnology
- Neurodegenerative diseases
- Cardiovascular diseases
- Nanobiosensors
- Nanotechnology and regenerative medicine
- Nanoparticle synthesis
- Nutrition
- Food industry

COOPERATIONS

- Iranian Academy of Medical Sciences
- Iran Nanotechnology Initiative Council

- Department of Medical Nanotechnology of TUMS
- Nanotechnology Research Center, School of Pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran
- Iran University of Medical Sciences Core Laboratory
- Neuroscience Research Center, IUMS
- Cellular and Molecular Research Center, IUMS
- Department of Medical Nanotechnology, Faculty of Advanced Technologies in Medicine Iran University of Medical Sciences

Patents

- Cancer targeting by anti-egfr peptides and applications thereof, US20170183380A1
- Cancer targeting by liposomal encapsulated anticancer drugs and anti-epidermal growth factor receptor (EGFR) peptides, Approved in intellectual property center of Iran

Papers

- Inhibition of H1N1 influenza virus infection by zinc oxide nanoparticles: another emerging application of nanomedicine, *Journal of biomedical science*, 2019.
- Glioblastoma U-87MG tumour cells suppressed by ZnO folic acid-conjugated nanoparticles: an in vitro study, *Artificial cells, nanomedicine, and biotechnology*, 2019.
- Application of electrospun gelatin nanofibers in tissue engineering, *Biointerface Research in Applied Chemistry*, 2018.
- Investigating the effects of electrical stimulation via gold nanoparticles on in vitro neurite outgrowth: Perspective to nerve regeneration, *Microelectronic Engineering*, 2017.
- Improved drug delivery and therapeutic efficacy of PEGylated liposomal doxorubicin by targeting anti-HER2 peptide in murine breast tumor model, *European Journal of Pharmaceutical Sciences*, 2016.
- Analytical Characterization of Label-free Immunosensor Subsystems Based on Multi-Walled Carbon Nanotube Array-Modified Gold Interface 2015.
- Abstract: Investigating the Effects of Electrical Stimulation via Gold Nanoparticles for In Vitro Nerve Regeneration, *Artif Organs*, 2013.
- Sensitive detection of prostate specific antigen (PSA) with lable-free electrochemical nanoimmunosensor, 2013.

Book

- Carbohydrate-Based Nanofibers: Applications and Potentials, Handbook of Nanofibers, 2018.
- Polymer Based Nanofibers: Preparation, Fabrication, and Applications, Handbook of Nanofibers, 2018.
- Structural Multifunctional Nanofibers and Their Emerging Applications, Handbook of Nanofibers, 2018.

Research projects

- The effect of zinc oxide nanoparticles on the proliferation of type A (H1N1) influenza virus in MDCK cells
- Therapeutic effect of ZnO nanoparticles conjugated to Folic acid on glioblastoma cells
- Preparation and characterization of apigenin- loaded smart polymer nanoparticles for biomedical applications
- Preparation and characterization of polymer composite nanofiber scaffold based on PCL containing herbal active agent of apigenin
- Preparation and characterization of apigenin-loaded chitosan nanoparticles
- Therapeutic effect of ZnO nanoparticles conjugated to Folic acid on breast cancer cells
- Preparation and study of physicochemical properties of niosomes nanoparticles containing artemetic drug and evaluation of their toxicity and apoptosis activity on the human glioblastoma cells
- National monitoring of goiter prevalence and measurement of urinary iodine in iranian students in 2007 (national plan)
- Examining the type of cooking oil used by government organizations; hydrogenated or liquid (national plan)
- Monitoring of urinary iodine in students aged 8-10 years (national plan)
- Flour fortification plan by Iron and Folic Acid in Iran 2006 (National Plan)
- Preparation of Iran nutrition database from articles and researches (national plan)

Guidance dissertation

- The effect of zinc oxide nanoparticles on the proliferation of type A (H1N1) influenza virus in MDCK cells, Advisor, PhD, Finished.
- Therapeutic effect of ZnO nanoparticles conjugated to Folic acid on glioblastoma cells, Advisor, M.Sc. Finished.
- Preparation and characterization of apigenin- loaded smart polymer nanoparticles for biomedical applications, Supervisor, M.Sc., and Ongoing.
- Preparation and characterization of polymer composite nanofiber scaffold based on PCL containing herbal active agent of apigenin, M.Sc., and Ongoing.
- Preparation and characterization of apigenin-loaded chitosan nanoparticles, Advisor, M.Sc., and Ongoing.
- Therapeutic effect of ZnO nanoparticles conjugated to Folic acid on breast cancer cells, Advisor, General physician, and Ongoing.

Teaching

- Health apprenticeship training (nutrition
- Nutrition
- Search strategies from databases
- Liposomes: new therapeutics in medicine
- Colloidal systems
- Nano-devices
- Introduction to nanotechnology
- Nanomaterials
- Drug delivery systems
- Pharmacology and toxicology
- Nanomedicine

Awards & Achievements

- Ranked First, among Ph.D students in the Board exam, Tehran University of Medical Sciences, 2012
- Ranked first, in the Ph.D entrance examination held by Ministry of Health and Medical Education, 2010
- Ranked first, in the M.Sc. entrance examination held by Ministry of Health and Medical Education, 2008
- Acknowledgment from the Minister of Health and Medical Education of Iran for the first rank in in the Ph.D entrance examination of Medical Nanotechnology, 2012
- Top student, among graduate bachelor students of nutrition science, Shahid Beheshti University of Medical Sceinces, 2005
- Accepted abstract in 14th International Conference on Nanomaterials and Nanotechnology March 30- 31, 2017 Madrid, Spain and invited as Keynote Speaker's
- Acknowledgment from the dean of neuroscience research center of Iran University of Medical Sciences for the honest efforts and valuable cooperation in carrying out affairs of the center, 2017
- Acknowledgment from the health deputy of the Ministry of Health due to the management of the implementation of the national plan for goiter prevalence and measurement of urinary iodine
- Acknowledgment from the head of Institute of Endocrine Sciences and Metabolism for managing the implementation of the national plan: monitoring of goiter prevention and measurement of urinary iodine
- Encouraged by the director general of the office of community nutrition, deputy of health, Iran Ministry of Health and Medical Education
- Acknowledgment from the director general of the social studies and poverty reduction office in Iran
- Acknowledgment from the health deputy of the university to implement the health reform plan in Fasa
- Acknowledgment from the director of the office of community nutrition to implement the national mobilization of nutrition including nutrition training and applicable programs.
- Acknowledgment from the welfare office of Fasa for providing education, booklets, educational brochures, and food program for 3-6-year-old children in the village (national plan of providing a hot meal for children in the village).
- Acknowledgment from the department of education for the implementation of the iron support program for female students
- Acknowledgment from the health deputy of university for organizing an exhibition and conducting nutritional programs at the national public health week
- Acknowledgment from the director general of the Red Crescent for cooperating in the training of crisis management program
- Having 6 years' experience in the field of community nutrition improvement at Fasa University of Medical Sciences
- Having 6 months' work experience at the Science and Technology in Medicine Research Center of Tehran University of Medical Sciences as responsible of nanotechnology lab.

Referee:

- The National Congress of Pharmaceutical Sciences in Mazandaran, autumn, 2014.
- The International Journal of Material Science and Engineering C
- Nanomedicine Research Journal, Iran

Oral presentation

- Speaker and panel member in 2th international festival of Biopharma, 2018
- Speaker and panel member in national festival of ophtalmology, 2018

Poster presentation

- Investigating the toxicity of gold nanoparticles: in vitro and in vivo studies, specialized symposium on the safety of nanomaterials in humans and the environment, 2012
- Protein Immobilization on MWNT Modified Gold Electrode for Biosensing Application, the 4th International Conference on Nanostructures (ICNS4), 2012
- Sensitive detection of prostate specific antigen (PSA) with label-free electrochemical nanoimmunosensor , the 6th international & 11th national congress on quality improvement in clinical laboratories
- Investigating the Effects of Electrical Stimulation via Gold Nanoparticles for In Vitro Nerve Regeneration, The First Iranian Annual Congress on Progress in Tissue Engineering and Regenerative Medicine
- Prevalence of malnutrition among children under 5 years in Fasa city in 2015, 28th International Congress of Pediatrics – Oct 2016

Holding over hundreds workshops:

- "Improving the children growth and nutrition" for physicians and paramedics

- "Multiplayer Fellowship"
- "Anemia and its variants"
- "The management of nutrition in major emergencies"

Holding a training seminar:

- "Nutrition mobilization with slogan" Reduce salt, sugar and fat"