

Curriculum Vitae

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Dr. Ali Shakeri-Zadeh
Assistant Professor at Iran University of Medical Sciences (IUMS)



Personal information

- **Name:** Ali Shakeri-Zadeh
- **Date of Birth:** September 3, 1981
- **Place of Birth:** Mashhad, Iran.
- **Nationality:** Iranian
- **Marital Status:** Married

Contact information

- **Address (University):** Medical Physics Department, School of Medicine, Iran University of Medical Sciences (IUMS), Hemat Exp., Tehran, Iran.
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- **Page:** <http://scholar.google.com/citations?user=IBaCVR4AAAAJ&hl=en>

Education

- **2009-2014:** Ph.D of Medical Physics, Iran University of Medical Sciences (IUMS), Tehran, Iran.
Ph.D. Thesis Title: "An Investigation into the Effects of 5-fluorouracil Loaded PLGA Coated Magnetic Nanoparticles in the Presence of External Magnetic Field and Ultrasonic Waves on Allograft Model of Colon Cancer Cell Line CT26 in BALB/c Mice"
- **2005-2008:** MSc of Medical Physics, School of Medicine, Mashhad University of Medical Sciences (MUMS), Mashhad, Iran.

M.Sc Thesis Title: *"An Investigation of the Properties of Folate-Conjugated Gold Nanoparticles Designed for Targeted Cancer Therapy and the In Vitro Study of Their Photothermal Effects on Hela Cell Line"*

- **2000-2005:** BSc of Physics, School of Science, Ferdowsi University of Mashhad (FUM), Mashhad, Iran.

Patents

- Ghasemifard, M.; Shakeri-Zadeh, A.; Ghasemifard, H.; Doaee, A. *Design and construction of a new Opto-mechanical system for calculating d_{33} piezoelectric coefficient*, Iran patent; No. 58557; 12 Apr 2009.
- Hosseini, S.M.; Ghasemifard, M.; Shakeri-Zadeh, A. *Preparation and Characterization of PMN-PT Ceramic Nano-Powder at Low Temperature by Using Gel-Combustion Method*. Iran patent; No. 55401; 8 December 2008.
- Hosseini, S.M.; Ghasemifard, M.; Shakeri-Zadeh, A. *Construction of a New Static Accelerometer through Using MEMS Technology*. Iran patent; No. 55247; 3 December 2008.
- Sarvari, B.; Navidi, I.; Montazerabadi, A.; Shakeri-Zadeh, A. *Fabrication of New Charger for Ni-Cd and Ni-MH Batteries with Thermal Protection*. Iran patent; No. 50655; 22 July 2008.
- Hashemian, A.R.; Eshghi, H.; Shakeri-Zadeh, A. *Synthesis of Folate Conjugated Gold Nanoparticles Designed for the Targeting of Cancerous Cells*. Iran patent; No. 50129; 7 July 2008.

International Publications

- Shakeri-Zadeh A., Khoee S, Shiran M-B, Sharifi AM, Khoei S. *Synergistic effects of magnetic drug targeting using a newly developed nanocapsule and tumor irradiation by ultrasound on CT26 tumors in BALB/c mice*. Journal of Materials Chemistry B. 2015;3(9):1879-87.
- Shakeri-Zadeh A., Khoei S, Khoee S, Sharifi AM, Shiran M-B. *Combination of ultrasound and newly synthesized magnetic nanocapsules affects the temperature*

profile of CT26 tumors in BALB/c mice. Journal of Medical Ultrasonics.2015;42(1):9-16.

- Ghaznavi H, Najafi R, Mehrzadi S, Hosseini A, Tekyemarroof N, Shakeri-Zadeh A, et al. *The neuro-protective effects of cerium and yttrium oxide nanoparticles on high glucose-induced oxidative stress and apoptosis in undifferentiated PC12 cells.* Neurological Research. 2015;37(7):624-32.
- Shakeri-Zadeh A, Shiran M-B, Khoee S, Sharifi AM, Ghaznavi H, Khoei S. *A new magnetic nanocapsule containing 5-fluorouracil: In vivo drug release, anti-tumor, and pro-apoptotic effects on CT26 cells allograft model.* Journal of biomaterials applications. 2014;29(4):548-56.
- Khoei S, Mahdavi SR, Fakhimikabir H, Shakeri-Zadeh A, Hashemian A. *The role of iron oxide nanoparticles in the radiosensitization of human prostate carcinoma cell line DU145 at megavoltage radiation energies.* Int J Radiat Biol. 2014;90(5):351-6.
- M Bayat Tork, N Hemmati Nejad, S Ghalebarghi, A Bashari, A Shakeri-Zadeh, SK Kamrava, *In situ green synthesis of silver nanoparticles/chitosan/poly vinyl alcohol/poly ethylene glycol hydrogel nanocomposite for novel finishing of nasal tampons,* Journal of Industrial Textiles, 2015, doi: 10.1177/1528083714560255.
- Shakeri-Zadeh A, Kamrava SK, Farhadi M, Hajikarimi Z, Maleki S, Ahmadi A. *A scientific paradigm for targeted nanophotothermolysis; the potential for nanosurgery of cancer.* Lasers in medical science. 2014;29(2):847-53.
- Shakeri-Zadeh A.; Khoei S.; Khoee S.; Sharifi A.M.; Shiran M.B. *Targeted, monitored and controlled chemotherapy: A multi-modal nanotechnology-based approach against cancer.* ISRN Nanotechnology, 2013 Aug.
- Mehdizadeh A, Pandesh S, Shakeri-Zadeh A, Kamrava SK, Habib-Agahi M, Farhadi M, et al. *The effects of folate-conjugated gold nanorods in combination with plasmonic photothermal therapy on mouth epidermal carcinoma cells.* Lasers in medical science. 2014;29(3):939-48.
- Dehkordi F.J.; Shakeri-Zadeh A.; Khoei S.; Ghadiri H.; Shiran M.B. *Thermal distribution of ultrasound waves in prostate tumor: Comparison of computational modeling with in vivo experiments.* ISRN Biomathematics, 2013 Aug 5.

- Soltanpour M.S.; Soheili Z.; Shakeri-Zadeh A.; Pourfathollah A.; Samiei S.; Meshkani R.; Shahjahani M.; Karimi A. *Methylenetetrahydrofolate reductase C677T mutation and risk of retinal vein thrombosis*. Journal of Research in Medical Sciences, 2013, Vol. 18, Issue 6, 487-491.
- Montazerabadi A.R.; Ahmadian M.; Vahed M.R.; Yousefi N.; Fatehizadeh A.; Borhani P.; Rajabizadeh A.; Binesh A.R.; Shakerizadeh A.; Mahvi A.H. *Evaluation of ²²²Rn rate in medical dormitory of Kerman city*. Iranian Journal of Radiation Research, 2012, Vol. 10, Issue 3, 171-175.
- Brandenburg K.S.; Shakeri-Zadeh A.; Mansoori G.A. *Folate-Conjugated Gold Nanoparticles for Cancer Nanotechnology Applications*. Nanotech 3 Proceedings, 2011, 404-407.
- Shakeri-Zadeh A.; Mansoori G.A. *Cancer Nanotechnology Treatment through Folate Conjugated Gold Nanoparticles*. Proceedings of WCC 2010 (The 2nd World Congress on Cancer).
- Mansoori, G.A.; Brandenburg, K.S.; Shakeri-Zadeh, A. *A Comparative Study of Two Folate-Conjugated Gold Nanoparticles for Cancer Nanotechnology Applications*, Cancers, 2010, Vol. 2, 1911-1928.
- Hashemian, A.R.; Eshghi, H.; Shakeri-Zadeh, A.; Mansoori, G.A.; Mehdizadeh, A. *Folate-Conjugated Gold Nanoparticles (Synthesis, characterization and design for cancer cells nanotechnology-based targeting)*, International Journal of Nanoscience and Nanotechnology, 2010, Vol. 5, No. 1, 25-33.
- Shakeri-Zadeh, A.; Mansoori, G.A.; Hashemian, A.R.; Eshghi, H.; Sazgarnia, A.; Montazer-Abadi, A.R. *Cancer Cells Targeting and Destruction Using Folate Conjugated Gold Nanoparticles*, Dynamic Biochemistry, Process Biotechnology and Molecular Biology, Vol. 4, 2010, Special Issue, 6-12.
- Shakeri-Zadeh, A.; Ghasemifard, M.; Mansoori, G.A. *Structural and Optical Characterization of Folate conjugated Gold Nanoparticle*. Physica E, 2010, Vol. 42, Issue 5, 1272-1280.
- Shakeri-Zadeh, A.; Hashemian, A.R.; Mansoori, G.A.; Eshghi, H. *Conjugation of Gold Nanoparticles with Folic Acid using Mercaptohexanol as the Linker (For possible*

cancer cells nanotechnology-based targeting), Journal Nanotechnology Progress International, 2009, Vol. 1, 13-23.

Articles Published in Persian

- Shakeri-Zadeh, A. *Nanobiosensors and Their Applications in Medicine*. Navid-No. 2005; 10 (25): 45-51.
- Shakeri-Zadeh, A.; Ghahremani, F.; Montazerabadi, A.; Boloukat, E.; Zarghani, H. *Medical Applications of Nanomaterials*. Payam journal. 2005; 3/4 (4/5): 41-51.
- Boloukat, E.; Shakeri-Zadeh, A.; Ghahremani, F. *Biomedical Applications of Magnetic Nanoparticles*. Payam journal. 2006; 4 (6/7): 54-59.

International/National Congress

- National Congress and Workshops on Nanosciences and Nanotechnologies, Kharazmi University, May 2015, *Synergistic effects of magnetic drug targeting using a newly developed nanocapsule and tumor irradiation by ultrasound on CT26 tumors in BALB/c mice*, Oral presentation.
- International Conference on Nanoscience and Technology, ChinaNANO 2009, Beijing, China (*Title: Folate-conjugated Gold Nanoparticles Designed for Targeted Cancer Therapy*).
- The 6th Nanotechnology Iranian Student Conference, Tehran, Iran, 2009 (*Title: An Investigation of the Properties of Folate-Conjugated Gold Nanoparticles Designed for Targeted Cancer Therapy and the In Vitro Study of Their Photothermal Effects on Hela Cell Line*).
- The 14th International Student Congress of Medical Sciences, The Netherlands, 2007 (*Title: Folate-based multifunctional nanomaterials for cancer treatment*).
- The 8th Annual Research Congress of Iranian Medical Sciences Students and the 1st International Congress of Medical Sciences Students, Shiraz, Iran, 2007 (*Title: The capabilities of folic acid in developing smart nanomaterials for cancer treatment and diagnosis*).

- The 7th Annual Research Congress of Iranian Medical Sciences Students, Tehran, Iran, 2006 (*Title: Nanomaterials and their applications in medicine*).

Workshop participation

- **2015:** Principles of Nanobiotechnology
Instructor: Dr. G. Ali Mansoori (from University of Illinois at Chicago)
- **2015:** Nanostructures simulation with COMSOL
Instructor: Dr. Ghanei (from Amirkabir University)
- **2009:** International Patent Registration
Instructor: Dr. F. Dorkoosh (from Tehran University of Medical Sciences)
- **2008:** Physics of Medical Accelerators
Instructors: Dr. Adam and Engineer Kaja (from Poland)
- **2008:** Photodynamic Therapy
Instructor: Dr. Razaghi (from Shahid Beheshti University of Medical Sciences, Iran)
- **2007:** Grid Therapy and Brachy Therapy
Instructor: Prof. A. S. Meygooni (from University of Kentucky, USA)
- **2007:** Radiation Protection in Nuclear Medicine Divisions
Instructor: Dr. F. Tabeie (from Shahid Beheshti University of Medical Sciences, Iran)
- **2007:** MCNP-4C
Instructor: Dr. A. Molavi (Tarbiat Moallem University of Sabzevar, Iran)
- **2006-2007:** Nano-Biotechnology
Instructor: Prof. G. Ali Mansoori (from University of Illinois at Chicago, USA)
- **2006-2007:** Nano-Physics
Instructor: Dr. N. Shahtahmasebi (from Ferdowsi University of Mashad, Iran)

Awards

- **2009:** The 2nd place of the 6th Iranian Students Conference on Nanotechnology, Tehran, Iran.
- **2009:** Recognized as top inventor by Iran University of Medical Sciences (IUMS).
- **2005-2008:** Top student among MSc students of Medical Physics at Mashhad University of Medical Sciences (MUMS).

- **2007:** Travel grant for ISCOMS 2007 (Netherland), from Canon Foundation of Science.

Computer software familiarity

- Microsoft windows (expert)
- Microsoft Office ; Excel, Word, PowerPoint, Access (expert)
- Statistical Software; SPSS (expert)
- COMSOL Multiphysics
- MCNP-4c

Experience and lab skills

- Synthesis and characterization of polymeric/oxide/metallic nanomaterials
- Cell culture
- Enable to do various studies on laboratory animals (Rabbit, Rat, BALB/c mice,...)
- Animal MRI
- Enable to do pathologic studies (Pursian Blue staining of tissue/cells,...)
- RNA extraction
- Protein extraction
- RT-PCR and Western blotting
- Design, fabrication, and calibration of ultrasonic devices

Teaching experience

- **“MRI physics” for PhD students of Medical Physics:** School of Medicine, Iran University of Medical Sciences (IUMS).
- **“Medical Instrumentation” for PhD students of Medical Physics:** School of Medicine, Iran University of Medical Sciences (IUMS).
- **“MRI physics” for MSc students of Medical Physics:** School of Medicine, Iran University of Medical Sciences (IUMS).
- **“Physics of Diagnostic Radiology” for MSc students of Medical Physics:** School of Medicine, Iran University of Medical Sciences (IUMS).

- **“MRI physics” for BSc students of Radiology Technology:** School of Medicine, Zanjan University of Medical Sciences (ZUMS).
- **“CT-scan physics” for BSc students of Radiology Technology:** School of Medicine, Zanjan University of Medical Sciences (ZUMS).
- **“Dosimetry” for BSc students of Radiology Technology:** School of Medicine, Zanjan University of Medical Sciences (ZUMS).

Interests

- Cancer Nanotechnology
- Non-ionizing Radiation Physics
- Laser
- Ultrasound
- Medical Imaging
- MRI