



Curriculum Vitae

Hossein Khosravi

Personal Information

Academic Rank *Assistant Professor*

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Hamadan University of Medical Sciences, Hamedan-Iran.

Academic Background

2010-2015 *Faculty of Medical Sciences*

Tarbiat Modares University, Tehran, Iran

Ph.D. Degree in Medical Physics

2000-2003 *Faculty of Medical Sciences*

Tehran University of Medical Sciences, Tehran, Iran

M.Sc. Degree in Medical Physics

1995-1999 *Faculty of Physics*

Iran University of Science & Technology, Tehran, Iran

B.Sc. Degree in Atomic Physics

Language Skills

1. Persian

Speaking: Native, Reading: Native, Writing: Native

2. English

Speaking: Good, Reading: Good, Writing: Good

Awards & Honors

- *Ranked honors degree in Applied Physics, Iran University of Science and Technology (1997).*
- *Ranked first in the field of Applied Physics, Iran University of Science and Technology (1998).*
- *Active participation in the exhibition project of University of Science and Technology (1998).*
- *Ranked 1 of M.Sc. Medical Physics, Tehran University of Medical Sciences (2003).*
- *My Master's thesis is accepted as a national project by the Ministry of Industries and Mines (2003).*
- *My Ph.D. thesis is accepted as a national project by Iran Nanotechnology Initiative Council (2011).*

Thesis

Advisor/Consulter

1. *The methods of improving the level of family health based on the hygiene measures of traditional Iranian medicine (MD, 2017).*
2. *Investigating the effect of gold nanoparticles in increasing desorption in the treatment of thyroid cancer with 131-I (MSc, 2017).*
3. *Investigating the effect of gold nanoparticles dispersed in tissue-equivalent bolus on skin surface absorption dose distribution in radiation therapy of breast cancer patients using Monte Carlo simulation (MSc, 2017).*
4. *Investigating the effect of gold nanoparticles on increasing the absorbed dose in external beam radiation therapy in breast cancer using the Monte Carlo method (MSc, 2017).*
5. *Effect of gold nanoparticles on some apoptotic genes expression and oxidative stress status in HCT-116 human colon cancer cell line (MSc, 2020).*
6. *Synthesis and characterization of graphen-bismuth nanocomposites as radiology shields (MD, 2021).*
7. *Evaluation of the effect of hydroalcoholic extract of rhus coriaria on pulmonary damage x-ray in RAT (MSc, 2021).*
8. *The effect of hydroalcoholic extract of green coffee on X-ray induced Lung injury in rat (MSc, 2021).*
9. *Investigating the Influence of using various reconstruction Kernels on Computed Tomography Number of different brain tissues (MD, 2021).*
10. *Survey on occupational gamma-ray radiation exposure among the medical staff of cardiology wards of Farshchian Hospital, Hamadan, Iran (MD, 2021).*
11. *Evaluation of thyroid absorption dose in chest CT scan tests in children under 10 years old (MD, 2021).*
12. *Evaluation of dose received by eye and thyroid treatment staff in ERCP process using fluoreoscopic device (MD, 2021).*
13. *Comparison of serum zinc levels in healthy women and women with breast cancer referred to Mahdieh Radiotherapy Center in Hamadan (MD, 2022).*
14. *Evaluation and evaluation of the dose received by the eye and thyroid of the treatment staff in the nuclear medicine ward of Farshchian Hospital in Hamadan (MD, 2023).*

Work Experiences

- *Administrative-Financial Vice-Chancellor of Hamadan School Allied Medical Sciences*
- *Secretary of the strategic committee of Hamadan School Allied Medical Sciences*
- *Member of the Educational and Research Council of Hamadan School Allied Medical Sciences*
- *Researcher of optics in Jahad Sharif University of Technology, Tehran, Iran.*
- *Researcher of Medical Imaging Systems in Research Center of Science and Technology in Medicine, Tehran, Iran.*
- *Master of optical systems in organizations aerospace, Tehran, Iran.*
- *The radiotherapy physicist in the Emam Khomeini Hospital, Tehran, Iran.*
- *The radiotherapy physicist in the Kamrani Institute, Tehran, Iran.*
- *The radiotherapy physicist in the Pars Hospital, Tehran, Iran.*
- *Assistant Professor, Department of Health Research in Chamran Hospital, Tehran, Iran.*

Teaching Experiences

- *Teaching courses: ionizing radiation dosimetry, radiobiology, radiation physics, ultrasound waves, MRI physics and radiation protection at Hamedan University of Medical Sciences (from 2016 to now)*
- *The radiation productive sources used in medical and industry for M.Sc. Students, Babol University: 2 academic years.*
- *Radiation protection in medicine for B.Sc. Students, Babol University: 2 academic years.*
- *Medical Physics for medical students, Shahed University: 4 academic years.*
- *Radiation protection in medicine for Students, Research Center of Sciences and Technology in Medicine: 6 academic years.*
- *Basic Physics for B.Sc. Students, IUST: 1 academic year.*
- *Applied Mathematics for Electrical B.Sc. Students, Sadra University: 1 academic year.*
- *Electromagnetic Engineering for Electrical B.Sc. Students, Sadra University: 1 academic year.*
- *Atomic & Nuclear Physics for M.Sc. Students, Semnan University: 3 academic year.*

Research Experiences

- *Design and construction of optical systems: student microscope, chart projector, laser proximity fuse, star tracker.*
- *Design, development and implementation of a clinical QCT system using CT scan images with DICOM format.*
- *Conformal Radiation Therapy (3D CRT)*
- *Intensity Modulated Radiation Therapy (IMRT)*
- *Gel Dosimetry*
- *Gold Nanoparticles Radiation Therapy (GNRT)*

- *Monte Carlo simulation of LINAC by MCNP*
- *Monte Carlo simulation of GNRT*
- *Design of non-lead shields with high radiation protection capability*
- *Evaluation of nanoparticles radiosensitization effect in radiation therapy of cancer*
- *Investigating and evaluating the application of radiomics in diagnosis and treatment of lung cancer*

Training Courses Taken

- *Participated and completed the “Optical Design” (2000).*
- *Participated and completed the “High- Power Lasers” (2001).*
- *Participated and completed the “ AutoCAD” (2001).*
- *Participated and completed the “Radiation Oncology and Solution for Conformal Therapy” (2001).*
- *Participated and completed the “ICDL I & ICDL II” (2005).*
- *Participated and completed the “Modeling & Simulation of The Bird Systems” (2006).*
- *Participated and completed the “ COSMOSMOTION Dynamic Simulator” (2008).*
- *Participated and completed the “Seminar on Systems Imaging & Radiosurgery (2008).*
- *Participated and completed the “ Documentation of Scientific Documents”(2009).*
- *Participated and completed the “Advanced Workshop on Quality Assurance in Radiotherapy”(2010).*
- *Participated and completed the “Workshop on Simulation Toolkit in Geant4”(2011).*
- *Participated and completed the “Workshop on Safety, Healthy & Enviroment”(2011).*
- *Participated and completed the “Configuration Management”(2012).*
- *Participated and completed the “Project Risk Management”(2012).*
- *Participated and completed the “Comprehensive Project Management Workshop Based on PMBOK”(2012).*
- *Participated and completed the “Iran Nano Forum”(2012).*
- *Participation in project management training course (2013)*
- *Participation in the project risk management training course (2013)*
- *Participation in the configuration management training course (2013)*
- *Participation in patent workshop (2013)*
- *Participating in the third empowerment period of the program of innovative projects of nanotechnology (2014)*
- *Participation in the practical workshop of quality assurance related to linear accelerators in the field of medicine (2015)*
- *passing quality control courses for all medical imaging devices (2016)*
- *Passing advanced radiation protection course (2017)*

Computer Skills

- *MATLAB*
- *Programming with C++*
- *MCNPX*
- *Treatment Planning Systems.*
- *GEANT4*
- *ZEMAX*

Publications

A. Paper

1. *H Khosravi. Effects ray lasers on the eye and the skin and provide a safety program in front of it. 2thAir and Space Conference. 2002.*
2. *M Allahverdi, H Khosravi, H Gharaati, HR Khosravi. Evaluation and comparison between dose measurement under conformal block and calculation with Plato treatment planning system and proposing a correction algorithm. IRANIAN JOURNAL OF MEDICAL PHYSICS, 2003; 1 (2): 15-22.*
3. *H Khosravi. Detection of the optical wavefront using the Talbot effect. Photonics Conference, 2004.*
4. *H Khosravi. Bifocal optical system designed to track distant targets using ZEMAX software. 7th Iranian Aerospace Society Conference, 2007.*
5. *HR Khosravi, S Sarkar, H Khosravi, MR Deevband. Monte Carlo Simulations for I-131 Imaging Using a Variance Reduction Technique. In World Congress on Medical Physics and Biomedical Engineering, 2007; 856-858.*
6. *H Khosravi, HR Khosravi. Establishment of the National Diagnostic Guidance Levels: An Important National Project. 6th Scientific Congress of the Iranian Association imaging, 2008.*
7. *H Khosravi, D Hashemi. Feasibility, design and construction of an optical system for laser proximity fuse. The First National Core ground combat, 2008.*
8. *H Khosravi, D Hashemi. A new optical system designed to track a star. Iranian National Conference of Optics and Laser Engineering, 2009.*
9. *Khosravi HR, Sarkar S, Khosravi H, Deevband MR. Monte Carlo Simulations for I-131 Imaging Using a Variance Reduction Technique. In World Congress on Medical Physics and Biomedical Engineering, September 7-12, 2009, Munich, Germany: Vol. 25/4 Image Processing, Biosignal Processing, Modelling and Simulation, Biomechanics 2010 (pp. 856-858). Berlin, Heidelberg: Springer Berlin Heidelberg.*
10. *H Khosravi, M Moradzadeh. The lightning discharge path, induced by the laser. Scientific Journal of Aerospace, 2010.*
11. *H Khosravi, M Shahbazi, H Karami. Introduction to functional mechanisms of laser proximity fuses and their design requirements to countering air targets. First National Congress of the necessity of air weapons in future conflicts, Imam Hossein University, Tehran, 2013.*

12. **H Khosravi**, F Rahmani. *Effect of gold nanoparticles size on increase the absorbed dose in external beam radiotherapy using Monte Carlo simulation.* 15th Conference on Nanotechnology, TMU, Tehran, 2014.
13. **H Khosravi**, B Hashemi, SR Mahdavi, P Hejazi. *Effect of gold nanoparticles on distribution of absorbed dose in internal (Ir-192) and external (18 MV) radiotherapy of the prostate pelvic phantom using gel dosimetry and Monte Carlo simulation.* 11th Iranian Conference of Medical Physics, 2014.
14. **H Khosravi**, B Hashemi, SR Mahdavi, P Hejazi. *Target dose enhancement factor alterations related to interaction between the photon beam energy and gold nanoparticles' size in external radiotherapy: Using Monte Carlo method.* *Koomesh*, 2015; 1(57): 255-261.
15. **H Khosravi**, B Hashemi, SR Mahdavi, P Hejazi. *Effect of gold nanoparticles on the prostate dose distribution under Ir-192 internal and 18 MV external radiotherapy procedures using the gel dosimetry and Monte Carlo method.* *Journal of biomedical physics & engineering*, 2015; 5(1): 3-14.
16. **H Khosravi**, AEbadi. *Assessment of the Hazards of high power lasers on eyes and suggestion a safety program.* *Third Congress of laser application in medicine.* 2016, Tehran, Iran.
17. **H Khosravi**, AEbadi. *The feasibility of designing and building anti- sensor of laser.* *Third Congress of laser application in medicine.* 2016, Tehran, Iran.
18. **H Khosravi**, AMahdavi, F Rahmani, A Ebadi. *The Impact of Nano-Sized Gold Particles on the Target Dose Enhancement Based on Photon Beams Using by Monte Carlo Method.* *Nanomedicine Research Journal*, 2016; 1 (2), 84-89.
19. **H Khosravi**, F Rahmani, B Hashemi. *Gel dosimetry: The effect of gold nanoparticles on the dose enhancement in the external radiation therapy.* *Nanomedicine Research Journal*, 2016; 1 (1), 31-38.
20. **H Khosravi**, B Hashemi, F Rahmani, AEbadi. *Investigation of the gold nanoparticles effects on the prostate dose distribution in brachytherapy: gel dosimetry and Monte Carlo method.* *Journal of contemporary brachytherapy*, 2016; 8 (5), 422.
21. S Farahani, E Gorji, R Rahnamafar, S Fazli, **H Khosravi**, et al. *Enhanced radiotherapy by novel class of radiosensitizers based Bismuth and Gadolinium nanoparticles.* *Radiotherapy and Oncology*, 2017; 123, S963-S964.
22. **H Khosravi**, B Hashemi, SR Mahdavi. *Investigation of the dose enhancement effect due to gold nanoparticles at 18 MV radiotherapy using MAGIC-f and Monte Carlo methods Thoraco-Lumbar spinal cord fMRI in 3T* *Iranian Journal of Medical Physics 15 (Special Issue-12th. Iranian Congress ...2018.*
23. **H Khosravi**, B Hashemi. *Effect of gold nanoparticles on the dose enhancement at 18 MV radiotherapy practice based on the MAGIC-f gel and Monte Carlo dosimetry methods.* *Nanomedicine Journal*. 2019,6(1):67-73.
24. **H Khosravi**, K Ghazikhanlousani, A Rahimi,. *Use of gold nanoparticles in MAGIC-f gels to 18 MeV photon enhancement.* *Nanomedicine Journal*. 2019; 6 (1), 67-73.
25. **H Khosravi**. *Evaluation of gold nanoparticles radiosensitization effect in radiation therapy of cancer.* *Tehran University Medical Journal*, March 2019; 76(12): 772-777.

26. PM Jafari S. , Ghazikhanlu Sani K. , Karimi M., **Khosravi H.**, Goodarzi R. *Establishment of Diagnostic Reference Levels for Computed Tomography Scanning in Hamadan. Journal of Biomedical Physics and Engineering.* 2020; 10 (6), 793-800.
27. K Ghazikhanlousani, **H Khosravi**, K Faraji, S Rezayi. *Evaluation of Radiation Protection Status of Diagnostic Radiology Departments of Hamadan University of Medical Sciences Hospitals. Frontiers in Biomedical Technologies.* 2022; 9 (3), 199-205.
28. A Maddah, N Ziamajidi, **H Khosravi**, H Danesh, R Abbasalipourkabir. *Gold nanoparticles induce apoptosis in HCT-116 colon cancer cell line. Molecular Biology Reports.* 2022; 49 (8), 7863-7871.
29. **Khosravi H.**, Doosti-Irani A, Bouraghi H, Nikzad S. *Investigation of Gold Nanoparticles Effects in Radiation Therapy of Cancer: A Systematic Review. Journal of Advances in Medical and Biomedical Research.* 2022 Sep 10;30(142):388-96.
30. Sayyed MI, Hamad MK, Mhareb MH, Prabhu NS, **Khosravi H.**, Kamath SD. *Effect of different modifiers on mechanical and radiation shielding properties of SrO-B2O3-TeO2 glass system. Optik.* 2022 May 1;257:168823.
31. Azmoonfar R, **Khosravi H.**, Rafieemehr H, Mirzaei F, Dastan D, Ghiasvand MR, Khorshidi L, Pashaki AS. *Radioprotective effect of Malva sylvestris L. against radiation-induced liver, kidney and intestine damages in rat: A histopathological study. Biochemistry and Biophysics Reports.* 2023 Jul 1;34:101455.
32. **Khosravi H.**, Hamidi M, Nikzad S, Tapak L. *Evaluating the Outcome of an Unnecessary Request for CT Scan in Be'sat Hospital of Hamadan. Radiology Research and Practice.* 2023 Feb 22;2023.
33. Yaftian M, Saeedzadeh E, **Khosravi H.**, Mohammadi E. *Evaluation of the effect of gold and iron oxide nanoparticles dispersed on the bolus in radiation therapy by using Monte Carlo simulation. Nanomedicine Journal.* 2023 Apr 1;10(2).

B. Books

- *Polymer gel dosimetry and its applications: radiotherapy, radiation sensitivity and protection*
- *Basics and principles of the Monte Carlo method and its applications in medical physics (under publication)*
- *Measuring bone density by computer tomography method (currently published)*