

Name and Surname: Payvand Taherparvar

Academic Degree : PhD in Physics (Medical Imaging)

Academic Title :Associate Professor

Research Fields of Interest

- Medical Imaging
- Medical Physics
- Hadron therapy
- Monte Carlo simulation
- Particle Accelerator

Degree	University	Field	Description
B.Sc.	University of Guilan	Physics	First Rank
M.Sc.	Khajeh Nasiruddin Toosi University	Physics	First Rank
Ph.D.	University of Guilan	Physics	First Rank

----- Papers -----

- [A Geant4-DNA study on DNA damage induced by \$^{161}\text{Tb}\$ and \$^{177}\text{Lu}\$ in a multicellular atomic model](#) 2025
A Azizi Ganjgah, P Taherparvar
International Journal of Radiation Biology 101 (12), 1224-1235
- [An Investigation of Cell Displacement in Direct and Indirect DNA Damage Induced by Photon Radiation: A Geant4-DNA Study](#) 2025
AA Ganjgah, P Taherparvar
Frontiers in Biomedical Technologies
- [A Monte Carlo simulation of gamma-ray backscattering from concrete shields coated with nanoparticle layers](#) 2025
A Nikrah, P Taherparvar, A Sadremomtaz
Scientific Reports 15 (1), 29825

- [Analytical investigation of biological response of different tissues to proton beam radiation using phenomenological and biophysical models](#) 2025
H Taghipour, SM Motevalli, P Taherparvar
Nuclear Instruments and Methods in Physics Research Section B: Beam ...
- [Monte Carlo investigation of dose distribution of two model 106Ru/106Rh ophthalmic plaques in a realistic human eye model with different uveal melanoma size](#) 2025
Z Fardi, P Taherparvar
Applied Radiation and Isotopes 217, 111636
- [Evaluation of the distribution of prompt gammas emission during proton therapy using the GATE Monte Carlo toolkit](#) 2025
S Gharib, P Taherparvar
Journal of Radiation Safety and Measurement 13 (4), 191-202
- [Comparison of Single and Two-Layer Tapered MicroPET Scanner with Default Cuboidal Scanners.](#) 2025
A Sadremomtaz, P Taherparvar, M Saber
Frontiers in Biomedical Technologies 12
- [Evaluation of the Distribution of Radionuclide Production during Proton Therapy for Monitoring the Proton Range for Different Incident Proton Energies.](#) 2025
S Gharib, P Taherparvar
Frontiers in Biomedical Technologies 12
- [Effect of Ti, Bi, W, Zn, and Pb nanoparticles on the radiation shielding properties in transparent medium: a Monte Carlo study](#) 2024
A Nikrah, P Taherparvar, A Sadremomtaz
Journal of Instrumentation 19 (12), P12021
- [The effects of cell displacement on DNA damages in targeted radiation therapy using Geant4-DNA](#) 2024
AA Ganjgah, P Taherparvar
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- [Sensitivity study of the development modified microdosimetric kinetic model input parameters for proton beam therapy](#) 2024
H Taghipour, P Taherparvar
The European Physical Journal Plus 139 (11), 1038
- [Characterization of ferrous-xylenol orange-polyvinyl alcohol gel for gamma dosimetry using spectroscopy](#) 2024
M Sedighi, E Edalatkhah, P Taherparvar
Radiochimica Acta 112 (11), 923-928
- [Calculation of Involved and Noninvolved Organs Doses in Carbon Therapy of Brain Tumor Using GEANT4 Simulation Toolkit.](#) 2024
M Ahmadi, SM Motevalli, P Taherparvar, V Zanganeh
Iranian Journal of Medical Physics/Majallah-I Fīzīk-I Pīzīshkī-i Īrān 21 (5)

- [A comparative study of crystal geometry, material, and reconstruction algorithms on MicroPET scanner performance](#) 2024
A Sadremomtaz, P Taherparvar, M Saber
Journal of Instrumentation 19 (08), P08028
- [Investigation of Image Quality for Cuboid and Tapered Array microPET Systems](#) 2024
A Sadremomtaz, P Taherparvar, M Saber
Journal of Medical and Biological Engineering 44 (4), 531-538
- [Preparation of PVA Fricke gel dosimeters and survey of concentration and maintenance condition effects on its response](#) 1 2024
M Sedighi, E Edalatkhah, P Taherparvar
Journal of Nuclear Science, Engineering and Technology (JONSAT) 45 (2), 65-71
- [Evaluation of direct and indirect DNA damage under the photon irradiation in the presence of gold, gadolinium, and silver nanoparticles using Geant4-DNA.](#) 1 2024
AA Ganjgah, P Taherparvar
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- [The Effect of Bismuth Oxide Nanoparticles and Microparticles on the Radiation Shielding Properties of Tellurium Glasses Using MCNPX Code](#) 1 2024
A Nikrah, P Taherparvar, A Sadremomtaz
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- [Comparison of direct DNA damage by protons and oxygen, carbon, and helium ions using Geant4-DNA code](#) 2024
A Azizi Ganjgah, P Taherparvar
Iranian Journal of Physics Research 23 (4), 611-619
- [Evaluation of beam coupling impedance by generating a dedicated database in an ultra-low emittance storage ring](#) 2024
S Moniri, P Taherparvar
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- [Stability of PVA Fricke gel as a radiochromic indicator for blood irradiation.](#) 3 2024
E Edalatkhah, M Sedighi, P Taherparvar
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- [The multiturn transverse injection scheme using short pulse nonlinear kicker into the 3.5 GeV synchrotron storage ring](#) 2023
S Moniri, P Taherparvar
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- [Damage estimation resulting from Auger electron-emitting radionuclides based on the 1ZBB model in the presence of different nanoparticles: A Monte Carlo simulation study](#) 2023
A Azizi Ganjgah, P Taherparvar
Journal of Radiation Safety and Measurement 12 (4), 239-230
- [Comparing Pixelated and Slat-Based Monolithic Tapered MicroPET Scanners in Single-Layer and Phoswich Configurations](#) 2023
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- [Dosimetric comparison of two models of \$^{106}\text{Ru}/^{106}\text{Rh}\$ eye plaque in brachytherapy treatment of eye melanoma using GATE Monte Carlo code](#) 2023
Z Fardi, P Taherparvar
Journal of Radiation Safety and Measurement 12 (1), 47-55
- [Dosimetry assessment of theranostic Auger-emitting radionuclides in a micron-sized multicellular cluster model: a Monte Carlo study using Geant4-DNA simulations](#) 14 2022
R Salim, P Taherparvar
Applied Radiation and Isotopes 188, 110380
- [Effect of marker material on the dosimetric parameters of I-125 source \(model 6711\): Monte Carlo simulation](#) 3 2022
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- [Design and simulation of 2MV electrostatic accelerator tube](#) 2022
P Taherparvar, J Rahighi
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- [Development of modified microdosimetric kinetic model for relative biological effectiveness in proton therapy](#) 4 2022
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- [A Monte Carlo study on the effects of a static uniform magnetic field on micro-scale dosimetry of Auger-emitters using Geant4-DNA](#) 15 2022
R Salim, P Taherparvar
Radiation Physics and Chemistry 195, 110063
- [Comparison between dose distribution from \$^{103}\text{Pd}\$, \$^{131}\text{Cs}\$, and \$^{125}\text{I}\$ plaques in a real human eye model with different tumor size](#) 9 2022
P Taherparvar, Z Fardi
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- [Carbon therapy of brain tumors and the effect of phantom compositions on dose calculations using Monte Carlo simulations](#) 3 2022
M Ahmadi, SM Motevalli, P Taherparvar
JOURNAL OF NUCLEAR SCIENCE AND TECHNOLOGY 42 (498), 64-71
- [Optical gain in a free-electron laser with laser wiggler in the presence of a magnetized ion-channel](#) 1 2021
F Hajikarimi, P Taherparvar, S Jafari
The European Physical Journal D 75 (12), 305
- [Dosimetric study of \$^{103}\text{Pd}\$ Brachytherapy source \(Theragenics, model 200\) in water phantom and different tissues with GATE Monte Carlo code](#) 2021
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- SM Hashemi, P Taherparvar, M Razzaghi
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- [Development of GATE Monte Carlo Code for Simulation and Dosimetry of New I-125 Seeds in Eye Plaque Brachytherapy](#) 7 2021
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- [Cellular S values in spindle-shaped cells: a dosimetry study on more realistic cell geometries using Geant4-DNA Monte Carlo simulation toolkit](#) 18 2020
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Annals of Nuclear Medicine 34 (10), 742-756
- [Comparison of different model predictions on RBE in the proton therapy technique using the GATE code](#) 4 2020
H Taghipour, P Taherparvar
Journal of Radiation Safety and Measurement 9 (4), 15-24
- [Effect of ME collimator characteristic, energy window width, and reconstruction algorithm selection on imaging performance of yttrium-90: simulation study](#) 2 2019
P Taherparvar, N Shahmari
Nuclear Medicine and Molecular Imaging 53 (6), 414-422
- [Monte Carlo single-cell dosimetry using Geant4-DNA: the effects of cell nucleus displacement and rotation on cellular S values](#) 27 2019
R Salim, P Taherparvar
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- [Calculation and evaluation of energy deposition and S-value caused by low-energy electrons in a multicellular model using Geant4-DNA](#) 2019
R Salim, P Taherparvar
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- [Monte Carlo dosimetry for a new ³²P brachytherapy source using FLUKA code](#) 12 2019
R Rajabi, P Taherparvar
Journal of Contemporary Brachytherapy 11 (1), 76-90
- [Design and optimization of a multi-bend achromat lattice for 3.5 GeV synchrotron storage ring](#) 4 2019
S Moniri, P Taherparvar
Journal of Instrumentation 14 (02), T02001
- [Estimation of dosimetric parameters of I-125 brachytherapy source model 6711 using GATE8.1 code](#) 2019
Z Fardi, P Taherparvar
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- [Evaluation the effect of different collimators and energy window on Y-90 bremsstrahlung SPECT imaging by SIMIND Monte Carlo program](#) 2 2019
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- [A Monte Carlo investigation of the dose distribution for new I-125 low dose rate brachytherapy source in water and in different media](#) 18 2019
Z Fardi, P Taherparvar
Polish Journal of Medical Physics and Engineering 25 (1), 15-22
- [Optimization of Bremsstrahlung imaging in Yttrium internal radiation therapy](#) 2018
P Taherparvar, N Shahmari
Iranian Journal of Medical Physics 15, 450-450
- [Determination of the flux of a neutron radioisotope source through gold activation method](#) 2018
A Sadremomtaz, P Taherparvar, S Gholami
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- [Investigation of neutron flux by thermoluminescence dosimeters in the neutron-gamma mixed field](#) 2018
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- [Microdosimetry study of a multicellular model with mono-energetic electrons using Geant4-DNA simulation toolkit](#) 2018
P Taherparvar, R Salim, AA Neek
Iranian Journal of Medical Physics 15 (Special Issue-12th. Iranian Congress ...
- [Development of GATE Monte Carlo simulation for a CsI pixelated gamma camera dedicated to high resolution animal SPECT](#) 15 2018
P Taherparvar, A Sadremomtaz
Australasian Physical & Engineering Sciences in Medicine 41 (1), 31-39
- [Dosimetry of a radioisotope source of neutron by thermoluminescence dosimeters \(TLD-600/700\)](#) 2017
S Gholami, A Sadremomtaz, P Taherparvar
Journal of Radiation and Nuclear Technology 4 (2), 52-64
- [Investigation of electron beam characteristics in ILC BDS beam line by BDSIM Geant4 code](#) 2017
S Moniri, P Taherparvar
Journal of Radiation and Nuclear Technology 4 (1), 25-32
- [Quantitative and Qualitative Evaluations of Defect Images in Different Regions of Myocardial Phantom under Implementation of Various Filters in SPECT](#) 1 2015
A Sadremomtaz, P Taherparvar
Indian Journal of Science and Technology 8 (12), 1
- [Planar Nuclear Medicine Images De-Noising Via Wavelet Block Thresholding: a Simulation Study](#) 2013
A Sadremomtaz, P Taherparvar
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- [The influence of filters on the SPECT image of Carlson phantom](#) 12 2013
A Sadremomtaz, P Taherparvar
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[Construction of Electrostatic Accelerator with a Maximum Energy of 200keV](#)

J Rahighi, KM JAFARZADEH, RM LAMEHI, H Ghods, A Vakili, F Zounobi, ... [1](#) 2013
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A Sadremomtaz, P Taherparvar, H Saiad 2013
Biocybernetics and Biomedical Engineering 33 (3), 156-163

[Effect of energy window width on the contrast and SNR of diagnosis of defects in different regions of myocardial phantom](#)

A Sadremomtaz, P Taherparvar [4*](#) 2012
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[Optimum value of original events on the PEPT technique](#)

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Oriental Journal of Chemistry 27 (3), 1041

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SF Masoudi, P Taherparvar [2](#) 2010
Journal of fusion energy 29 (3), 240-243

Reviewer in:
Physics in Medicine and Biology
Biomedical Physics & Engineering Express
Nuclear Engineering and Technology
Radiation Measurements
Radiation and Environmental Biophysics
Journal of Frontier in Biomedical Technologies
Australasian Physical & Engineering Sciences in Medicine
Scientific Reports
Annals of Nuclear Medicine
Applied Radiation and Isotopes
Iranian Journal of Radiation Safety and Measurement

- **Head of the Physics Department (2021-2025).**
- **First place in the first stage of the Iranian National Student Physics Olympiad (non-centralized) in Zone 2 in 2006.**
- **Sixth place in the first stage of the Iranian National Student Physics Olympiad in 2006.**
- **Thirteenth place in the final stage of the Iranian National Student Physics Olympiad in 2006.**
- **Author of the country's outstanding thesis in the field of nanotechnology and physics in 2011.**
- **Distinguished student of Khaje Nasir University in the field of physics in 2007.**
- **Distinguished student of the University of Guilan in the field of physics in 2011.**
- **Honored at the conference of top researchers, elites, and outstanding talents of Guilan province in 2011.**