CURRICULUM VITAE

•  **Personal Details:**

 Name: Wrya

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* Current Position: Assistant Professor at Ilam University of Medical Science
* Address: Department of Medical Physics, Faculty of Paramedical Sciences, Ilam University of Medical Sciences, Ilam, Iran

**• Education:**

* Doctor of Philosophy in medical physics, Tehran University of Medical Sciences (TUMS), [www.tums.ac.ir](http://www.tums.ac.ir)
* Research Areas: radiation therapy, radiation dosimetry, Monte Carlo simulation
* Thesis: “Construction of a new gel dosimeter sensitive to low dose levels and assessment of its performance for out of field dosimetry in order to heart dose measurement in breast cancer treatment”
* Master of Science in medical physics, Tehran University of Medical Sciences (TUMS), [www.tums.ac.ir](http://www.tums.ac.ir), September 2010-december 2012, Tehran, Iran
* Research Areas: radiation therapy, radiation dosimetry, medical imaging
* Thesis: “Dosimetric evaluation of heterogeneity in small photon fields using polymer gel dosimeters, Gafchromic film and Monte Carlo simulation”
* Bachelor of Science in Solid State Physics, University of Kurdistan (UOK), [www.uok.ac.ir](http://www.uok.ac.ir), September 2000-julay 2005, Sanandaj, Iran
* High School: Field of Mathematics and Physics in SAMPAD (Iran's national organization for development of exceptional talents) Group, September 1995 - June 1999, Sanandaj, Kurdistan, Iran

**• The main responsibilities:**

* Faculty member department of radiation technology, Hormozgan University of medical sciences, 2013-2016.
* Head of physics department of Bandar Abbas OMID radiotherapy center, 2013-2016.
* Head of health physics of Bandar Abbas OMID radiotherapy center, 2013-2016.
* Physicist in Bandar Abbas OMID radiotherapy center, 2013-2016.
* Physicist in Qom VALIEASR radiotherapy center, 2017-2020.
* Faculty member department of Medical Physics, Ilam University of medical sciences, 2020-present.
* Director of Postgraduate Studies of Paramedical College, Ilam University of medical sciences, 2020-2022.
* Head of exam center, Ilam University of medical sciences, 2022-2025.
* Dean of the Faculty of Paramedical Sciences, Ilam University of medical sciences, 2025-present.

**• Honors:**

* Ranked 3th in nationwide university entrance exam for PHD of medical physics (2016).
* Ranked 4th in nationwide university entrance exam for M.Sc of medical physics (2010).

**• Academic interests:**

* Radiation Therapy
* Radiation Dosimetry
* Monte Carlo Simulation
* Radiobiology
* Medical Imaging

**• Teaching Experience**

* General Physics and Mathematics in high School, Dehgolan, Kurdistan, Iran 2006 – 2008.
* Radiation physic for radiology technologist students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* Radiation protection for radiology technologist students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* Dosimetry for radiology technologist students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* Physics of ultrasound imaging for radiology technologist students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* Physics of diagnostic radiology for radiology technologist students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* General physics for radiology technologist students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* Specialist physics for Occupational Health Engineering students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* Anesthetic physics for anesthesiology students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* General physics for Environmental health engineering students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* Biophysics for Environmental health engineering students, Hormozgan University of medical sciences (HUMS), 2013-2016.
* Biophysics for Environmental health engineering students, Ilam University of medical sciences, 2020-2025.
* General physics for Science Laboratory students, Ilam University of medical sciences, 2016-2017 & 2020-2025.
* Biophysics for Science Laboratory students, Ilam University of medical sciences, 2016-2017 & 2020-2025.
* Anesthetic physics for anesthesiology students, Ilam University of medical sciences, 2016-2017& 2020-2025.
* Medical physics for operating room students, Ilam University of medical sciences, 2016-2017& 2020-2025.
* Medical physics for medicine students, Ilam University of medical sciences, 2020-2024.
* Specialist physics for Occupational Health Engineering students, Ilam University of medical sciences, 2020-2025.
* Medical physics for dental students, Ilam University of medical sciences, 2020-2025.
* Application of radiology and sonography in midwifery for midwife student, Ilam University of medical sciences, 2020-2025.
* Application of leaser in dentistry for dental students, Ilam University of medical sciences, 2020-2025.

**Research Projects:**

* Dosimetric evaluation of heterogeneity in small photon fields using polymer gel dosimeters, Gafchromic film and Monte Carlo simulation, Tehran University of medical sciences.
* Dosimetric evaluation of small photon fields using polymer gels, EBT2 Gafchromic films and Monte Carlo simulation in radiosurgery treatments, Kurdistan University of medical sciences.
* Evaluation of ICRP Standards in Diagnostic Radiology departments of hospitals in Hormozgan University of Medical Sciences, Hormozgan University of Medical Sciences.
* An assessment of Nurses' knowledge of the principles of radiation protection in hospitals of Bandar Abbas, Hormozgan University of Medical Sciences.
* Construction of a new gel dosimeter sensitive to low dose levels and assessment of its performance for out of field dosimetry in order to heart dose measurement in breast cancer treatment and comparison the results with Monte-Carlo simulation, Tehran University of medical sciences.
* Investigation the performance of the susceptibility weighted imaging in readout of the Fricke gel dosimeters and optimization of the imaging parameters, Tehran University of medical sciences.
* Assessment of skyshine dose in Shahid Rajaee radiotherapy center, Babolsar, Iran, Babol University of Medical Sciences.
* The evaluation of lung heterogeneity on dosimetric parameters in small fields using simulations and practical measurement, Hormozgan University of Medical Sciences.
* Evaluation of dual function of Fricke gel as a surface dosimeter and bolus compensator in the treatment of breast cancer using inhomogeneous phantom and comparing its results with Monte Carlo simulation, Tehran University of medical sciences.
* Improvement of PASSAG polymer gel dosymeter for high dose dosimetry, Tehran University of medical sciences.
* Dose Enhancement of Intraoperative Radiotherapy (IORT) using the Most Effective Nanoparticles for Human Breast Cancer Treatment, Tehran University of medical sciences.
* Investigation the performance of the susceptibility weighted imaging in readout of the Fricke gel dosimeters and optimization of the imaging parameters, Tehran University of medical sciences.
* Evaluation of the relationship between the severity of pulmonary pneumonia observed in chest computed tomography images (Chest-CT) and the duration of infection for COVID-19 patients, Ilam University of Medical sciences.
* Evaluation of field-in-field technique in optimization of three-dimensional conformal radiotherapy in treatment of gastro-esophageal junction cancer, Shahid Beheshti University of Medical Sciences.
* Radiosensitization of Gold, Silver, and Gadolinium Nano Particles in the 177Lu Radionuclide Radiation Field: A Study on Microscopic and Macroscopic Scales on a Liver-Specific Phantom using the Monte Carlo Method, Tabriz University of Medical Sciences.

• Publication:

* Afkhami A.M, **Parwaei W**, Haghparast M. The impact of breast size on heart and lung doses in the treatment of breast cancer using 2 and 3 dimensional tangential fields. 2015;22(5):758-764.
* MahmoudiNejad MH, **Parwaie W**. 3-D cell modeling and investigating its movement on non-rigid substrates. Molecular Medicine Journal. 2015;1(1):13-9.
* **Parwaie W,** Yarahmadi M, Nedaie HA, Zahmatkesh MH, Barati AH, Afkhami M. Evaluation of MRI-based MAGIC polymer gel dosimeter in small photon fields. Int. J. Radiat. Res. 2016;14(1):57-63.
* Kargar E, **Parwaie W,** Farhood B, Atazadegan Z, Afkhami Ardekani M. Assessment of Radiographers’ Awareness about Radiation Protection Principles in Hospitals of Bandar Abbas, Iran. Iranian Journal of Medical Physics. 2017;14(1):47-52.
* **Parwaie W,** Farhood B, Ardekani MA, Safari H. Evaluating the frequency of breast cancer risk factors in women referred to mammography center for breast cancer screening: a report from south part of Iran. Journal of Cancer Policy. 2018; 16:33-38.
* Babaloui S, **Parwaie W**, Refahi S, Abrazeh M, Ardekani MA. Awareness Assessment of Nurses in the OR, ICU, CCU, and PICU about Radiation Protection Principles of Portable Radiography in Hospitals of Bandar Abbas, Iran. Journal of Radiology Nursing. 2018; 37(2):126-129.
* **Parwaie W**, Refahi S, Afkhami Ardekani M, Farhood B. Different Dosimeters/Detectors Used in Small-Field Dosimetry: Pros and Cons. Journal of Medical Signals and Sensors. 2018; 8(3).
* Mortezaee K, **Parwaie W**, Motevaseli E, Mirtavoos-Mahyari H, Musa AE, Shabeeb D, Esmaely F, Najafi M, Farhood B. Targets for improving tumor response to radiotherapy. International immunopharmacology. 2019; 76:105847.
* **Parwaie W,** Geraily G, Shirazi A, Shakeri A, Massumi H, Farzin M. Analysis of the ferrous benzoic methylthymol-blue gel dosimeter in low-dose-level measurements. Radiation Physics and Chemistry. 2020 Aug 1; 173:108943.
* **Parwaie W**, Geraily G, Shirazi A, Mehri-Kakavand G, Farzin M. Evaluation of ferrous benzoic methylthymol-blue gel as a dosimeter via magnetic resonance imaging. Physica Medica. 2020 Dec 1; 80:47-56.
* **Parwaie W**, Geraily G, Shirazi A, Yarahmadi M, Shakeri A, Ardekani MA. Evaluation of lung heterogeneity effects on dosimetric parameters in small photon fields using MAGIC polymer gel, Gafchromic film, and Monte Carlo simulation. Applied Radiation and Isotopes. 2020 Dec 1; 166:109233.
* Nezhad ZA, Geraily G, **Parwaie W**, Zohari S. A novel investigation of the effect of different concentrations of methacrylic acid on the dose response of MAGAT gel dosimeter in intraoperative radiotherapy. Radiation Physics and Chemistry. 2021 Feb;179:109214.
* Alyani Nezhad Z, Geraily G, Hataminia F, **Parwaie W**, Ghanbari H, Gholami S. Bismuth oxide nanoparticles as agents of radiation dose enhancement in intraoperative radiotherapy. Medical Physics. 2021 Mar;48(3):1417-26.
* Pursamimi M, Ghorbani M, **Parwaie W**, Shakeri A, Meigooni AS. Evaluation of field-in-field, three-field, and four-field techniques for treatment planning of radiotherapy of pancreatic cancer. Journal of Cancer Research and Therapeutics. 2022 Jan 1;18(1):190.
* **Parwaie W**, Geraily G, Mehri-Kakavand G, Babaloui S, Rezvani S, Pursamimi M. Dosimetry of small photon fields in the presence of bone heterogeneity using MAGIC polymer gel, Gafchromic film, and Monte Carlo simulation. Reports of practical Oncology and radiotherapy. 2022;27(2):226-34.
* Alyani Nezhad Z, Geraily G, **Parwaie W**, Hossein Nezhad E. Evaluation of dose enhancement effect of bismuth oxide nanoparticles by means of MAGAT and nPAG gel dosimeters. Journal of Radioanalytical and Nuclear Chemistry. 2022 Apr;331(4):1683-9.
* Mehri-Kakavand G, Pursamimi M, **Parwaie W**, Ghorbani M, Khosrav M, Hosseini SM, Meigooni AS. Assessment of Field-in-Field, 3-Field, and 4-Field Treatment Planning Methods for Radiotherapy of Gastro-Esophageal Junction Cancer. Journal of Biomedical Physics and Engineering. 2022 Oct 1;12(5):439-54.
* Sheykholeslami N, **Parwaie W**, Farzin M, Vaezzadeh V, Geraily G. An Investigation into the Surface Dose Using Eclipse Treatment Planning System and Film Dosimetry for Treatment of Breast Cancer. Frontiers in Biomedical Technologies. 2023 Jan 4;10(1):27-31.
* Sheykholeslami N, **Parwaie W**, Vaezzadeh V, Babaie M, Farzin M, Geraily G, Karimi AH. Dual application of Polyvinyl Alcohol Glutaraldehyde Methylthymol Blue Fricke hydrogel in clinical practice: Surface dosimeter and bolus. Applied Radiation and Isotopes. 2023 Jul 1;197:110827.
* Haghparast M, **Parwaie W**, Bakhshandeh M, Tuncel N, Mahdavi SR. Evaluation of Perkin elmer amorphous silicon electronic portal imaging device for small photon field dosimetry. Journal of Biomedical Physics & Engineering. 2024 Aug 1;14(4):347.
* **Parwaie W**, Molazadeh M, Mortezazadeh T. Evaluation of the Impact of Energy, Radiation Type, and Concentration on Dose Enhancement by Gold Nanoparticles. Cancer Treatment and Research Communications. 2025 Apr 28:100933.
* Pursamimi M, Ghorbani M, Khosravi M, Mehri-Kakavand G, **Parwaie W**, Hosseini SM, Sharifi AM, Tavakoli M. Evaluation of Conventional Treatment Planning Techniques for Radiotherapy of Gastroesophageal Junction Cancer: A Dosimetric Comparison between Male and Female Patients. Frontiers in Biomedical Technologies. 2025 Mar 18.
* **Parwaie W**, Molazadeh M, Mortezazadeh T, Ghiasi H. Radiosensitization of the Gold, Silver, and Gadolinium Nanoparticles in 177Lu Radionuclide Radiation Field in Microscopic and Macroscopic Scales in the Liver Radionuclide Therapy. Frontiers in Biomedical Technologies. 2025 Jul 1;12(3):509-18.

Articles Presented in Seminars and Congresses

* Evaluation of breast size on heart and lung doses in breast cancer treatment with tangential fields in three-dimensional and conventional methods. (presented in Ninth International Congress of Breast Cancer. Iran 2014)
* Satayi Mokhtari S, Shabestani Monfared A, Arbabi K, Niksirat F, Ebrahimnejad Gorji K, **Parwaie W**. Measuring the Skyshine from Linear accelerator in Rajaee Oncology Hospital. Iranian Journal of Medical Physics. (Special Issue-12th. Iranian Congress of Medical Physics).
* Pursamimi M, Ghorbani M, Khosravi M, Mehri-Kakavand G, **Parwaie W**, Hosseini SM, Sharifi AM, Tavakoli M. Dosimetric Evaluation of Field-in-Field, Three-Field and Four-Field Treatment Planning Techniques for Radiotherapy of Gastroesophageal Junction Cancer between Men and Women. InAAPM 65th Annual Meeting & Exhibition 2023 Jul 23. AAPM.
* Sheykholeslami N, Karimi AH, Ghazale G, **Parwaie W**, Vaezzadeh V, Farzin M. Novel application of Ferrous-Methylthymol Blue-Polyvinyl Alcohol-Glutaraldehyde gel dosimeter as a bolus. Sociedad Mexicana de Irradiacion y Dosimetria, Ciudad de Mexico (Mexico); 2022 Oct 1.