Curriculum Vita
(Updated: January 28th, 2025)

Personal Information

Name: Bijan Hashemi
Date of Birth: 11th July 1957
Place of Birth: Malayer, Iran
Nationality: Iranian
Marital Status: Married

Educational Background

Diploma: Mathematics, Dr. Shariati (Previously Pahlavi) High School, Malayer, Iran, 1975.
B.Sc.: Physics, Tarbiat Moalem University (Now known as: Kharazmi/Arak University), Iran, 1980.
M.Sc.: Medical Physics, Tarbiat Modares University, Tehran, Iran, 1989.
Ph.D.: Medical Physics, University of Edinburgh, Edinburgh, U.K. 1998.

Professional Background

Current Job:

Professor (Faculty Member), Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran. From February 2024 to now.

Previous Jobs:

Associate Professor (Faculty Member), Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran. From July 2007 to February 2024.
Assistant Professor (Faculty Member), Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran. From April 1998 to July 2007.
Instructor (Faculty member), Department of Medical Physics: Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran. From September 1989 to March 1990.

Work Address

Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University, Jalal AleAhmad Highway, Nasr, P.O. Box: 14115-111, Tehran 1411713116, Iran.
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Academic/Scholar Links

Google Scholar: https://scholar.google.com/citations?user=Qbih8UMAAAAJ&hl=en
ORCID: https://orcid.org/0000-0002-2511-4376
LinkedIn: https://www.linkedin.com/in/bijan-hashemi-7785b639/

Brief Biography

I have been awarded a Diploma in Mathematics from Dr. Shariati High School (Iran) in 1975, a B.Sc. Degree in Physics from Tarbiat Moalem University (Now being named:

Kharazmi/Arak University) (Iran) in 1980, an M.Sc. Degree in Medical Physics from Tarbiat Modares University (Iran) in 1989, and finally Ph.D. Degree in Medical Physics from Edinburgh University (U.K.) in 1998.
I have been a faculty member (currently **Professor**) of the Department of Medical Physics of Tarbiat Modares University (Tehran/Iran) with my research interests focused on the application of ionizing radiation in medical diagnosis and treatment (radiology, radiotherapy, radiobiology and radiation protection) from 1989 up to now.
I have been a full member of National Audit and Evaluation Board of Medical Physics of Ministry of Health and Medical Education of Iran from 1998 till now and the Secretary of this Board from 2019 till 2022. I have continuously been a full member of Iranian Association of Medical Physicists (IAMP) since 1998, being itself a member of Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) and consequently International Organizations for Medical Physics (IOMP). I have also been an Associate/General (currently) member of American Association of Medical Physicists (AAPM) from 2008 to present, and a member of the U.K. Institute of Physics and Engineering in Medicine (IPEM) from 1992 to 2008 (being suspended because of not being able to pay the subscription fee due to the financial sanction imposed on Iranian banks to overseas countries).
I have presented/published more than 200 scientific original papers at various specialized national and international medical physics related congresses and peer reviewed specialized journals on different relevant topics to my research interests aimed for the development of conventional and novel diagnostic and treatment techniques/methods based on medical physics knowledge and science.
Regarding my scientific achievements and reputation in global academic community, I am delighted to report a **number of 1018 citations** to my published articles, **an H-index of 18**, and **i10-index of 29** based on my public Google Scholar profile.

Educational Information (Including meetings, conferences, seminars, on-line education, etc.):

A) Lecturing Courses for General Practitioners/Physicians and Dentistry Students

- **Medical Physics for General Medicine and Dentistry Students**

B) Lecturing Courses for Medical Physics M.Sc. Students

- **Physics of Radiotherapy**
- **Fundamentals of Radiation Detection and Dosimetry**
- **Radiation Protection of Ionizing Radiation in Medical Radiation Centers**
- **Medical Biophysics**
- **Academic English (for Medical Physics Students)**
- **Research Methods in Medical Sciences**

C) Lecturing Courses for Medical Physics Ph.D. Students

- **Special Topics in Radiation Detection and Measurement.**
- **Novel Topics in Radiotherapy**
- **Fundamental Physics and Applications of New Radiotherapy Machines**
- **Image Guided and Treatment Verification in Radiotherapy and Medical Imaging Methods**
- **Novel Dose Calculations and Treatment Planning Systems in Radiotherapy**
- **Novel Topics in Brachytherapy**

Professional Activities Information (Including organizations, committees, etc.)

A) Professional official appointments

- **Professor in Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From February 2024 to present**
- Associate Professor in Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From July 2007 to February 2024.
- Head of Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From July 2022 to November 2024.
- Director of Self –Funded Campus of Tarbiat Modares University. Tehran, Iran. From August 2020 to February 2021.
- Director of Self –Funded Campus and Office of Open Education Office of Tarbiat Modares University. Tehran, Iran. From August 2019 to August 2020.
- Director of the Educational Cooperation and Test Center, Tarbiat Modares University. Tehran, Iran. From August 2010 to August 2020.
- Financial and Administrative Vice-Dean of Faculty, Medical Sciences, Tarbiat Modares University. Tehran, Iran. From October 2005 to August 2010.
- Executive Director of Modares Journal of Medical Sciences, Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From September October 2002 to April 2007.
- Assistant Professor in Medical Physics (M.Sc. & Ph.D.), Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From April 1998 to July 2007.
- Head of the Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From February1999 to February 2001.
- Deputy of the Research Vice-Dean of Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From 1998 to 2000.
- Financial and Administrative Vice-Dean of Faculty of Basic Sciences, Tarbiat Modares University. Tehran, Iran. From October 1989 to March 1990.
- Financial Advisor of Principal of Tarbiat Modares University. Tehran, Iran. From March 1989 to October 1989.
- Instructor in Medical Physics of Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From September 1988 to March 1990.

B) Membership of the Professional/Expert Committees/Councils

- **Member of National Audit and Evaluation Board of Medical Physics, Ministry of Health and Medical Education of Iran. Tehran, Iran. From 1998 to present.**
- Secretary of National Audit and Evaluation Board of Medical Physics, Ministry of Health and Medical Education of Iran. Tehran, Iran. From March 2019 to March 2022.
- Member of the Revising Committee of Medical Physics Ph.D. Curriculum of National Audit and Evaluation Board of Medical Physics, Ministry of Health and Medical Education of Iran. Tehran, Iran. From 2014 to 2016.
- Member of the Revising Committee of Medical Physics M.Sc. Curriculum of National Audit and Evaluation Board of Medical Physics, Ministry of Health and Medical Education of Iran. Tehran, Iran. From 2013 to 2016.
- Member of the Revising Committee of Medical Imaging M.Sc. Curriculum of National Board Audit and Evaluation of Medical Physics, Ministry of Health and Medical Education of Iran. Tehran, Iran. From 2015 to 2016.
- Member of the Revising Committee of Radiation Biology M.Sc. Curriculum of Medical Physics, National Board of Medical Physics, Ministry of Health and Medical Education of Iran. Tehran, Iran. From 2015 to 2017.
- Member of the Expert Committee of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From 1998 to present.
- Member of the Comprehensive Commission for Programming and Evaluation (M.Sc. and Ph.D. Curricula) of Tarbiat Modares University. Tehran, Iran. From 2011 to 2015.
- Member of the Research (Postgraduate) Council of Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From 1998 to 2014.

- Member of the Physiotherapy Expert Committee of Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From 2003 to 2010.
- Member of the Occupational Health Expert Committee of Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From 1998 to 2010.
- Member of the Education (Postgraduate) Council of Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From 1998 to 2010.
- Member of the Audit and Evaluation Committee of Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From 1998 to 2010.
- Secretary of the Audit and Evaluation Committee of Faculty of Medical Sciences, Tarbiat Modares University. Tehran, Iran. From 1998 to 2003.

C) Membership of scientific associations/societies

- **Associate/General Member of the American Association of Medical Physicists (AAPM). USA. From 2008 to present.**
- **Fellow Member of Iranian Association of Medical Physicists (IAPM), AFOMP, and IOMP. Tehran, Iran. From 1998 to present.**
- Member of the Board of Directors of Iranian Association of Medical Physicists (IAMP). Tehran, Iran. From January 2002 to 2019.
- Head of the Professional Committee of the Iranian Association of Medical Physicists (IAMP). Tehran, Iran. From January 2002 to 2009.
- Graduate Member of the Institute of Physics and Engineering in Medicine (IPEM), UK. From 1992 to 1998.
- Associate/General Member of the Institute of Physics and Engineering in Medicine (IPEM), UK. From 1998 to 2008 (Suspended due to being unable to pay the membership costs following economic sanctions imposed on Iranian Banks banning them from any money transfer to the overseas banks including the UK).

D) Membership of the editorial board/peer reviewers of scientific journals

- Physica Medica (European Journal of Medical Physics). Elsevier publisher. From 2009 to present.
- International Journal of Radiation Oncology, Biology and Physics. Elsevier publisher. From 2011 to present.
- Modares Journal of Medical Sciences of Faculty of Medical Sciences of Tarbiat Modares University. Tehran, Iran. From July 2002 to present.
- Iranian Journal of Medical Physics, Iranian Association of Medical Physicists (IAMP), Iran, from 2002 to present.
- (Iranian Medical Journal of) Kousar. Tehran, Iran, From 1999 to present.
- Iranian Journal of Medical Sciences. Tehran, Iran, From 1999 to present.
- (Iranian Medical) Journal of Daneshvar. Tehran, Iran, From 1999 to present.
- (Iranian Medical) Journal of Hakim. Tehran, Iran, From 1999 to present.
- Iranian Journal of Medical Physics. Mashhad, Iran. 2003 to present.

E) Membership of Scientific/Editorial Board of Scientific Conferences/Congresses/Meetings

- Member of the Scientific Committee of Physics, Radiation Biology, and Radiation Technology. The 8th International Clinical Oncology Congress and the 18th Iranian Annual Clinical Oncology Congress, 2024. Iranian Society of Clinical Oncology (ISCO), Tehran, Iran. January 18-20, 2024.
- Member of the Scientific Committee of Physics, Radiation Biology, and Radiation Technology. The 7th International Clinical Oncology Congress and the 17th Iranian Annual Clinical Oncology Congress. Iranian Society of Clinical Oncology (ISCO). Tehran, Iran. February 2-4, 2023.
- Member of the International Advisory Board. The 22nd Asia-Oceania Congress on Medical Physics (AOCMP 2022), Taipei, Taiwan. December 10-12, 2022.

- Member of the Advisory Board. The 6th International Clinical Oncology Congress and the 16th Iranian Annual Clinical Oncology Congress. Iranian Society of Clinical Oncology (ISCO), Tehran, Iran. 16-18 February 2022.
- Member of the Scientific & Advisory Committee. The 12th Iranian Congress of Medical Physics, Iranian Association of Medical Physicists (IAMP) and Shahid Beheshti University of Medical Sciences. Tehran, Iran. 2018.
- Member of the Scientific & Advisory Committee. The 11th Iranian Congress of Medical Physics. Iranian Association of Medical Physicists (IAMP) and Tehran University of Medical Sciences. Tehran, Iran. 2014.
- Member of the Scientific & Advisory Committee. The 10th Iranian Congress of Medical Physics and the 1st MEFOMP International Conference of Medical Physics. Iranian Association of Medical Physicists (IAMP), (Middle East Federation of Medical Physics (MEFOMP) and Shiraz University of Medical Sciences. Shiraz, Iran. 2011.
- Member of the Scientific & Advisory Committee. The 9th Iranian Congress of Medical Physics, Iranian Association of Medical Physicists (IAMP) and Iran University of Medical Sciences. Tehran, Iran. 2010.
- Member of the Scientific & Advisory Committee. The 1st Iranian National Research Festival of Radiation Sciences' Students. Shiraz University of Medical Sciences. Shiraz, Iran. 7-8 October 2010.
- Member of the Scientific & Advisory Committee. The 9th Iranian Congress of Medical Physics, Iranian Association of Medical Physicists (IAMP) and Iran University of Medical Sciences, Tehran, Iran, 2010.
- Member of the Scientific & Advisory Committee. The 8th Iranian Congress of Medical Physics, Iranian Association of Medical Physicists (IAMP) and Shahid Beheshti University, Tehran, Iran, 2009.
- Member of the Scientific & Advisory Committee. The 7th Iranian Congress of Medical Physics, Iranian Association of Medical Physicists and Jundishapur University of Medical Sciences. Ahvaz, Iran. 2007.
- Member of the Scientific & Advisory Committee. The 6th Iranian Congress of Medical Physics, Iranian Association of Medical Physicists (IAMP) and Mashhad University of Medical Sciences. Mashhad, Iran. 2004.
- Member of the Scientific & Advisory Committee. The 5th Iranian Congress of Medical Physics, Iranian Association of Medical Physicists (IAMP) and Tarbiat Modares University. Tehran, Iran. 2002.
- Scientific Secretary. The 5th Iranian Congress of Medical Physics, Iranian Association of Medical Physicists (IAMP) and Tarbiat Modares University, Tehran, Iran, 2002.

F) Supervised M.Sc. Thesis in Medical Physics

1. **Predicting treatment response of Vestibular Schwannoma patients undergoing gamma knife radiosurgery using machine learning models based on their radiomics and dosiomics features. By: Mohadeseh Gholi Shadabad. From: May 2024-Continues.**
2. **Predicting treatment response of glioblastoma patients undergoing volumetric-modulated arc therapy using machine learning models based on patients' radiomics, genomics and dosiomics features. By: Samaneh Hassanpour. From: November 2023-Continues.**
3. Dosimetric-radiobiologic comparison of rectal cancer patients' radiation therapy by using intensity-modulated radiotherapy (IMRT) and volumetric modulated arc therapy (VMAT) based on patients' anatomical parameters after surgery. By: Najibollah Tajik (Internation Student). March 2024.
4. Dosimetric and radiobiological comparison of hybrid technique with Intensity Modulated Radiation Therapy (IMRT) and Volumetric Modulated Arc Therapy (VMAT) in rectal cancer patients. By: Elham Yaghoobvand. February 2024.

5. A radiobiological assessment of volumetric modulated arc therapy treatment plans in the treatment of glioma cancer using multicriteria optimization method (Pareto Surface). By: Nasim Amiri. February 2024.
6. Radiobiological and dosimetric assessment of different intensity modulated radiotherapy (IMRT) techniques for the treatment of patients having nasopharyngeal carcinoma using simultaneously integrated boost (SIB) method. By: Haydar Ali Hossein Almansaravi (International Student). November 2022.
7. Assessment of a Patient-Specific Quality Assurance Program for Dose Delivery from Radiation Therapy Planning System Using High-Dose Rate Brachytherapy (Cobalt-60 Sources) for the Treatment of Cervical Cancer Patients. By Amir Hossein Mohammadi. Suspended
8. An assessment of bystander effect due to irradiation of 6MV radiotherapy beams through investigating the changes of PD-L1 and NF-kß genes expression. By: Nastaran Masoudzadeh Vayeghan. June 2022.
9. Assessment of dose painting IMRT treatment plans for prostate cancer patients using DW-MRI based on weighted dose distribution conformity indices. By: Saman Moradi. September 2020.
10. Assessment of computed tomography enterography (CTE) imaging based on absorbed doses from CTE image of an anthropomorphic phantom (XCAT) by Monte Carlo simulation. By: Elham Khodayari. June 2020.
11. Prediction of radiotherapy outcome in low grade glioma patients based on machine learning radiogenomics model using MR images and genetic data. By: Mohsen Beikali Soltani. December 2019.
12. An assessment of the effect of the grid thickness and blockage surface percentage in electron beam radiation therapy (EBRT) at various energies using Monte Carlo simulation. By: Fatemeh Jafari. July 2019.
13. Evaluating the dosimetric characteristics of beveled applicator for intraoperative electron Radiotherapy. By: Ebrahim Shahverdi. July 2019.
14. Effect of combining 6 MeV radiotherapy with a selected protocol of RF hyperthermia on the treatment of MCF-7 breast cancer cell line in the presence of gold nanoparticles using clonogenic assay. By: Akram Mohammadi Nokhandani. February 2018.
15. An assessment of the correlation between some anatomical parameters and dose distribution indicators in dedicated radiotherapy techniques FiF, 3DCRT, Inv.-IMRT in patient with left breast cancer. By: Leyla Rahmati. January 2017.
16. Estimation of patient dosimetric parameters (organ dose, effective dose, air KERMA) in special angiography techniques and investigation the effects of the angle and field of view variations on these parameters by using the Monte Carlo simulation method on the VIP-Man phantom model. By: Parisa Nafar Sefiddashti. June 2016.
17. Assessment of patient entrance skin dose and effective dose in a mathematical human phantom accompanied by image quality indexes (SNR, CNR, resolution) for the most common interventional radiological exams. By: Salar Bijari. May 2016.
18. Estimating the variation of effective source surface distance (SSD) and output factor in intraoperative radiotherapy (IOERT) due to the usage of beam shaper. By: Hoda Ghotbi. February 2016.
19. Effect of inhomogeneity and exposure conditions on in-vivo dosimetry parameters of the patients undergoing radiotherapy for brain tumors with a 15 MV linac using EBT Gafchromic films. By: Seyed Masoud Rezaeijoo. February 2016.
20. Simultaneous assessment of doses and some QC parameters (CT number uniformity, spatial resolution and contrast resolution) resulted from general common CT examinations performed by using single and multi-detector (MD) CT systems. By: Daryoush Khoramian. July 2015.
21. Evaluation of the effect of retinitis pigmentosa on flash Xenon ERG and flash VEP components using signal analysis methods in time and frequency domains (Fourier and wavelet). By: Samira Ebdali. March 2015.

22. Assessment of the accuracy of computed regulation thermography (CRT) and mammography imaging techniques in the diagnosis and follow-up of breast cancer. By: Fatmira Hasanaj. September 2014.
23. The effect of inhomogeneity on dosimetric accuracy of the computerized TPS CorePLAN in conformal radiotherapy of prostate with 6 and 18 MV beams in a heterogeneous pelvis phantom using experimental and computation Monte Carlo dosimetry method. By: Mehdi Elahi. September 2014.
24. Estimation of the dose received by the target area and critical organs by using mono-isocentric radiotherapy technique in comparison with common non mono-isocentric techniques for the radiotherapy of breast cancer with 6 MV photon beams. By: Amin Banaei. September 2013.
25. The effect of geometric parameters of lead grid on dosimetric characteristics of external radiotherapy using electron beams of a medical linear accelerator. By: Kamran Entezari. June 2011.
26. An assessment of the effect of the polyethylene shield on the neutron equivalent dose produced by the 18MV photon beam of a medical linac. By: Mohammad Hossein Dejband. July 2011.
27. Dosimetric accuracy evaluation of two common computerized TPSs for chest wall irradiation with 6MV Tangential beams in an inhomogeneous thorax phantom using EDR-2 films. By: Golbarg Esmaile. January 2011.
28. The effect of spatial frequency and contrast sensitivity of grating pattern reversal stimulation on the latency and amplitude of VEP components in healthy people. By: Zeinab Rezaei Hosseinabad. November 2010.
29. Estimation of the level of dosimetric errors for some radiotherapy techniques (in reference & non reference condition) using a dosimetric quality audit method on 6 & 18 MV photon beams of Varian linacs. By: Manijeh Beigi. September 2010.
30. An investigation on the synergistic effect of interstitial brachytherapy and Photofrin II on the treatment of breast adenocarcinoma tumors induced in Bulb/C model. By: Ali Moradi. (1383-30.04.1388). July 2009.
31. Evaluation of magica normoxic gel dosimeter for the assessment of LDR Ir-192 wires dose distribution in Paris system. By: Azizollah Rahimi. April 2008
32. Assessment of color (yellow) filtration on visual evoked potential (VEP) by using pattern reversal. By: Seyed Nader Mousavi. September 2006.
33. An assessment of the accuracy of delivered radiation dose for the treatment of prostate cancer using diode dosimetry. By: Mohammad Saeed Sabouri. November 2005.
34. Estimating and evaluating radiation doses resulted from common CT examinations of children and the quality control parameters of a conventional CT system. By: Toufigh Sadeghiani. February 2005.
35. An estimation and comparison of doses to patients from routine X-Ray examination in some of Tehran general hospitals. By: Mehravar Rafaati Rahimzadeh. June 2002.
36. Assessment and evaluation of various middle esophagus cancer teletherapy techniques by using CT images and computerized treatment planning. By: Hasan Ali Nedaei. March 2002.
37. Assessment of the correlation between reduced acuity due to myopia and visual evoked potential (VEP) wave by using various simulation patterns. By: Sakineh Yusefi. September 2002.
38. An assessment of absorbed doses received by some critical organs from panoramic radiography. By: Farshad Hajihashemi. November 2000.
39. Relative integral doses of target and rectum from various cervical cancer radiotherapy techniques. By: Tayeb Allahverdi Pourfallah. July 2000

G) Co-supervised M.Sc. Thesis in Medical Physics & Other Relevant Fields

1. Lethal effect of low-voltage electric current on hydatid cyst protoscoleces. By: Reza Ghasemikhah. September 2003.

2. An Assessment of Thyroid Dose of Patient and Staff Performing Barium Swallow and Upper Gastrointestinal Fluoroscopy Examinations. By: Hassan Mouladoust. March 2002.

H) Supervised Ph.D. Thesis in Medical Physics

1. **The role of PET-CT scan in the follow-up of patients with differentiated thyroid cancer by using radiomics features and machine learning. By: Alya Farid Rajab (International Student). From: July 2024-Continues.**
2. **Prediction of dose distribution in radiotherapy of breast cancers with "intensity modulated radiation therapy (IMRT)", "volumetric modulated arc therapy" (VMAT), and "3-dimentional conformal radiation therapy" (3D-CRT) by using deep learning method. By: Masoomeh Farsizaban. From: March 2024-Continues.**
3. **Prediction of dose distribution in radiotherapy of head neck cancer with Tomotherapy systems using artificial intelligence methods based on deep learning. By: Parvaneh Darkhor. From February 2024-Continues**
4. **Predicting the patients' local response having metastatic brain tumor to stereotactic radiosurgery based on volumetric modulated radiotherapy (VMAT-SRS) with deep learning method by using radiomics and dosiomics data. By: Maedeh Mahmoudi. From: February 2024-Continues.**
5. **Prediction of response to ^{173}Lu-PSMA therapy in patients with castration resistant metastatic prostate cancer by developing a machine learning model based on clinical characteristics and radiomics characteristics of SPECT imaging. By: Zahra Janamiri. From February 2024-Continues.**
6. **Estimating the radio sensitivity ratio (α/β) and biological effective dose of breast cancer using genetic and system biology biomarkers. By Shiva Ghasemi. From: July 2022-Continues.**
7. **Evaluation of the proper respiratory gating window for lung tumors to determine desired setup margin for synchronize respiratory method by using digital phantom 4D XCAT and images of patients. By: Mehdi Elahi. From: 2018-Continues.**
8. Development of a novel method for predicting complication of normal tissues in prostate radiotherapy based on radiomics and dosiomics data by using machine learning. By: Elham Sadati. April 2024.
9. Radiosensitization effect of folate-conjugated hafnium oxide nanoparticles on HeLa cancer cells under 6 MV photon radiation. By: Bahareh Amini Kadijani. March 2023.
10. Simultaneous effect of 6 MeV electron beams radiotherapy and 13.56 MHz radiofrequency hyperthermia on radiation sensitivity of cultured monolayer MCF7 breast cancer cells in the presence of gold nanoparticles. By: Milad Hatamian. February 2023.
11. Dosimetric and radiobiologic assessment of adaptive radiotherapy by using contour-based dose painting method derived from multi-parametric MRI (mpMRI) in prostate cancer patients. By: Seyed Masoud Rezaeijo. April 2021.
12. Effect of collimator angle and non-coplanar fields on the quality indexes of treatment plans for nasopharyngeal carcinoma and their radiobiological assessment based on the Poisson and LQ models. By: Ghada Sharbo. March 2020.
13. Optimization of the dose distribution in the treatment of prostate cancer with 6 MV intensity modulated radiotherapy through the assessment of the effects of bladder and rectum dose volume histograms and the number and angles of radiation fields. By: Amin Banaei. February 2019.
14. Assessment of the radiosensitization of breast cancer cells to electron beams using conjugated gold nanoparticles with AS1411 aptamer. By: Somayeh Sadat Mehrnia. April 2018.

15. Assessment of lymphocytes intrinsic radiosensitivity of healthy subjects and prostate cancer patients to ionizing radiation photons (6 MV) by using micronuclei and chemical PCC methods. By: Farhad Golfam. May 2017.
16. Estimation of dosimetric parameters based on the K_{NR} and K_{NCSF} correction factors for small field s radiation therapy at 6 and 18MV linac energies using Monte Carlo simulation methods. By: Ali Rahimi. September 2015.
17. The effect of g old nanoparticles on the absorbed dose distribution in the combined external and internal radiation therapy of prostate in a pelvic phantom using experimental and simulated Monte Carlo dosimetry methods. By: Hossein Khosravi. August 2014.
18. Investigating the effect of fractionated gamma irradiation in the presence of free radical scavenger on the microstructure and fracture behavior of human femur cortical bone. By: Farzaneh Allahveisi. June 2014.
19. An in-vitro and in-vivo assessment of the radiobiological effect of the time gap within each radiotherapy fractions in controlling breast adenocarcinoma cells (4T1) in the BALB/c and using the linear quadratic model for its compensating. By: Safoora Nikzad. May 2014.
20. Investigating the radiosensitivity effect of folate conjugated gold nanoparticles on the therapeutic efficiency of external radiotherapy with low energy x-rays on MCF-7 and HeLa cancerous cell lines. By: Karim Khoshgard. February 2013.
21. Determination of the thyroid dose-response in patients undergoing head and neck external radiotherapy using the functional assay method based on the DMH concept in the NTCP models. By: Mohsen Bakhshandeh. May 2012.
22. An assessment of the factors affecting the effective attenuation coefficient of the compensator material for optimizing 6 MV intensity modulated radiation therapy (IMRT) by using simulation MC method. By: Abbas Haghparast. October 2011.
23. Development of a chemical dosimeter based on the radiochromic solid polymer and evaluation of its dosimetry characteristics in radiotherapy applications. By: Ahmad Mostaar. July 2010
24. Evaluation of effect of osteolytic defect location and shape on the occurrence of vertebral body compressive fracture in vertebrae using quantitative computed tomography (QCT) based finite element analysis (FEA) (QCT) based Finite Element Analysis Tomography. By: Ahad Zeinali. March 2008.
25. Monte Carlo dose calculation for photon beam in internal asymmetric fields. By: Payman Hejazi. July 2008.
26. An investigation on neutron contamination produced by 18 MV high energy photons of medical linacs and its effects on patient dose using the Monte Carlo method. Seyed Mehdi Hashemi Dizaji. July 2007.
27. An investigation of scattered radiation and bremsstrahlung contamination generated by electron beam applicators of a NEPTUN 10PC linac using the Monte Carlo method. By: Nasrollah Jabbari. May 2007.
28. An investigation on the effect of linac head structures on the x-ray field non uniformity using the Monte Carlo simulation method. By: Abbas Shafaei. November 2004.

I) Co-supervised Ph.D. Thesis in Medical Physics

- The effect of optical modulation and induction on visual evoked potentials. By: Ebrahim Jafarzadehpour. April 2003.

J) Appointed and Acted the External Postgraduate Degrees Examiner

1. **External Examiner of about 150 M.Sc. and Ph.D. students in Medical Physics Courses of top 4 Iranian universities including:**
    - **Tehran University of Medical Sciences**
    - **Iran University of Medical Sciences**
    - **Shahid Beheshti University of Medical Sciences**

- **Mashhad University of Medical Sciences**

2. **Internal Examiner of about 150 M.Sc. and Ph.D. students in Medical Physics Courses of Tarbiat Modares University**

Professional Achievement Information (Including presentations, publications, etc.)

A) Published Book

- **Bijan Hashemi and Mohammadali Behrooz. "Medical Physics: A Textbook for Students and Practitioners of Medicine and Dentistry".** [in Persian language]. Daneshbonyad Publishing Company **:**Tehran, Iran. 496 pages. ISBN: 978-622-5641-67-9. 2024.

B) Papers Published in Persian National Journals (*corresponding author)

1. Bahareh Amini Kadijani, **Bijan Hashemi***, Seied Rabi Mahdavi, Masoud Soleimani, 2023. Effect of Gold Nanoparticles Conjugated with Folic Acid on the Absorption and Radiosensitization of Cervical Cancer Cells Under 6 MV Photon Irradiation. *Journal of Mazandaran University of Medical Sciences*, 33(222): pp. 15-30 [Persian]. English abstract available from: https://jmums.mazums.ac.ir/article-1-19302-en.html.
2. Amin Banaei, **Bijan Hashemi***, Mohsen Bakhshandeh, Bahram Mofid, 2019. Comparison of dosimetric and radiobiological effects of various IMRT techniques regarding to joint volume between target tissue and organs at risk in prostate cancer patients. *Tehran University Medical Journal*, 77(2): pp. 92-100. [Persian]. English abstract available from: http://tumj.tums.ac.ir/article-1-9635-en.html.
3. Samira Ebdali, **Bijan Hashemi***, Ebrahim Jafarzadehpour, 2017. Comparing the Variation of Time and Frequency Components of Electroretinogram in Patients with Retinitis Pigmentosa and Healthy Individuals. *Journal of Mazandaran University of Medical Sciences*, 26(145): pp. 110-121. [Persian]. English abstract available from: https://jmums.mazums.ac.ir/article-1-9472-en.html.
4. Masoud Rezaeijo, **Bijan Hashemi***, Rabi Mahdavi, 2017. In-Vivo Dosimetry in External Radiotherapy of Brain Tumors with 15 MV Photon Using EBT3 Gafchromic Film. *Journal of Mazandaran University of Medical Sciences*, 26(144): pp. 282-289. [Persian]. English abstract available from: http://jmums.mazums.ac.ir/article-1-9269-en.html.
5. Farhad Golfamn, **Bijan Hashemi***, Abolghasem Haeri, Alireza Nikoofar, 2016. Determining Lymphocyte Radiosensitivity of Healthy Individuals and Prostate Cancer Patients Using Premature Chromosome Condensation. *Journal of Mazandaran University of Medical Sciences*, 26(142): pp. 31-39. [Persian]. English abstract available from: http://jmums.mazums.ac.ir/article-1-8787-en.html.
6. Mehdi Elahi, **Bijan Hashemi***, Seyed Rabi Mahdavi, 2016. Effect of Tissue Inhomogeneities on Dosimetric Accuracy of Conformal Radiotherapy of Prostate Cancer Using Monte Carlo Simulation. *Journal of Mazandaran University of Medical Sciences*, 26(137): pp. 137-149. [Persian]. English abstract available from: http://jmums.mazums.ac.ir/article-1-7722-en.html.
7. Daryoush Khoramian, **Bijan Hashemi***, Soroush Sistani, 2016. Effects of Different Reconstruction Kernels on Noise and Spatial Resolution of Computed Tomography Images: A Phantom study. *Journal of Paramedical Science and Military Health*, 11(1): pp. 24-29 [Persian]. English abstract available from: http://jps.ajaums.ac.ir/article-1-70-en.html.
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Research Interests:

1. Assessment, optimization and development of multi-modality cancer treatment based on external radiation therapy in combination with nanoparticle technology, hyperthermia, and other treatment modalities using common and novel artificial intelligence and machine learning methods.

2. Assessment, optimization and development of common and specific radiological modalities via processing and analyzing medical imaging using common and modern artificial intelligence and machine learning methods.
3. Assessment, optimization and development of ionizing and non-ionizing radiation dosimetry and protection methods using conventional experimental and Monte Carlo simulation as well as novel artificial intelligence and machine learning methods.
4. Assessment, optimization and development of visual evoked potential (VEP) and electroretinogram (ERG) biopotential signals using conventional and novel signal processing, artificial intelligence and machine learning methods.

Current Job Duties:

1. Lecturing relevant **Medical Physics M.Sc. and Ph.D. courses** to registered students as the faculty member of Medical Physics Department of Tarbiat Modares University. Tehran, Iran.
2. S**upervising research projects (Dissertation/Thesis) of M.Sc. and Ph.D. registered students** as the faculty member of Medical Physics Department of Tarbiat Modares University**.** Tehran, Iran.
3. Acting as the **Head of the Department of Medical Physics** of Faculty of Medical sciences of Tarbiat Modares University**.** Tehran, Iran.
4. Acting as the **Official Member of the National Board of Audit and Evaluation Board** of **Medical Physics** of the Ministry of Health and Medical Education of Iran. Tehran, Iran.
5. Acting as the **Editorial Board and Peer Reviewer of National and International Professional Journals** relevant to Medical Physics and other Allied Sciences such as Radiology, Radiotherapy, Nuclear Medicine, Cancer, etc.
6. Acting as the **Fellow Member of the Iranian Association of Medical Physicists (IAMP)**. Tehran, Iran.
7. Acting as the **Associate Member of the American Association of Medical Physicist (AAMP)**. USA.

Honors/Prizes

- **Receiving an Appreciation Letter from Tarbiat Modares University Chancellor as the Distinguished Head of the Department of Medical Physics among All Departments of Faculty of Medical Sciences**. **Tehran, Iran. September 2001.**
- **The Best Poster Award-2nd Position in Radiology and Imaging. For the Poster entitled: "Assessment of Abdomen and Pelvis CT Protocols based on Doses for Various Patient Sizes using Anthropomorphic (XCAT) phantoms and Monte Carlo Simulation". Awarded by the President of AFOMP and 21st Asia-Oceania Congress of Medical Physics (21st AOCMP) Organizers. Held at; United International University (UIU), Dhaka, Bangladesh, From 10-12 December 2021.**

REFERENCES:

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