

Personal Information	First Name: Amin	Last Name: Banaei
	Gender: male	Marital status: Married
	Date of Birth: 20 Sep 1989	City of birth: Tehran, Iran
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Educational Information

Grade	Major	Institute	Years
B.Sc.	Physics	Shiraz University	2007-2011
M.Sc.	Medical Physics	Tarbiat Modares University	2011-2013
Ph.D.	Medical physics	Tarbiat Modares University	2013-2019

Work Experiences

No.	Responsibility	Institute/Company Name	Fields of Work	Start	End
1	Technical Expert	Beh Negah Asr Company	Security and protection systems, school intelligence	April 2012	August 2014
2	Expert in Market Studies and Sales Engineering	Sina Ebtekar Samen Medical Equipment Company	Blood Transfusion and Processing Equipment	September 2014	May 2015
3	Instructor of Radiology Department	AJA University of Medical Sciences	Educational, Research, Therapeutic	June 2015	Now
4	Instructor of Medical Physics	School of Medicine, Shahed University	Educational, Research, Therapeutic	September 2017	Now

Teaching Experiences:

- 1- Medical Physics and Robotics for the operating room undergraduate students
2. Biophysics for the laboratory science undergraduate students
3. General physics and radiology physics for radiology students
- 4- MRI physics for radiology students
5. Application of computer in medical imaging for radiology students
- 6- Protection of ionizing radiation in medical imaging centers for radiology students
- 7- Seminar 1 and 2 for undergraduate students in radiology
8. Basic Mathematics for students in Radiology
9. Biological and medical statistics for radiology students
10. Radiobiology for undergraduate radiology students
- 11- An Introduction to Information Technology for undergraduate students in Radiology
- 12- Record and display of medical images for undergraduate students in radiology
13. Medical Physics Course for Dentistry Students
14. Medical Physics Course for physicians Students
15. Contrast agents and their applications for radiology students
16. Repair and maintenance of medical imaging devices for radiology Students
- 17- Biophysics course for master students of physiology

- 18- Diagnostic radiology physics course for master students of medical physics
- 19- Specialized X-ray imaging course for master students of medical physics

Workshops held:

Preliminary and advanced research methodology
Search method in scientific electronic resources
Physics and MRI techniques
Understanding how to present content in PowerPoint software
Familiarity with Arduino's Programming Workshop
MRI techniques and its application in radiotherapy

Other records/Awards:

Radiation Therapy Physicist Qualification Certificate from the Iranian Medical Physics Association
14th in Student Physics Olympiad 2011

Researches:

*** Thesis:**

- 1- **M.Sc. Thesis:** 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, Tarbiat Modares University, Medical Physics, 2013.
- 2- **Ph.D. Thesis:** 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, Tarbiat Modares University, Medical Physics, 2019.

*** Journal Articles:**

- 1- **Banaei A**, Hashemi B, Bakhshandeh M. Comparing the monoisocentric and dual isocentric techniques in chest wall radiotherapy of mastectomy patients. **Journal of Applied Clinical Medical Physics**. 2015;16(1):130–8.
- 2- M Mirdoraghi, **A Banaei**, JF Asl. Data on the estimating the risk of cancer due to some common radiographs in Tehran city. **Data in Brief**. 2018; 20:1269-73.
- 3- Abdi Goushbolagh N, Abedi Firouzjah R, Ebrahimnejad Gorji K, Khosravanipour M, Moradi S, **Banaei A**, Astani A, Najafi M, Zare MH, Farhood B. Estimation of radiation dose-reduction factor for cerium oxide nanoparticles in MRC-5 human lung fibroblastic cells and MCF-7 breast-cancer cells. **Artificial cells, nanomedicine, and biotechnology**. 2018 ; 46(sup3): S1215-S1225.

- 4- Firouzjah RA, **Banaei A**, Farhood B, Bakhshandeh M. Dosimetric Comparison of Four Different Techniques for Supraclavicular Irradiation in 3D-Conformal Radiotherapy of Breast Cancer. **Health physics**. 2019; 116(5):631-636.
- 5- K Ebrahimnejad Gorji, R Abedi Firouzjah, F Khanzadeh, N Abdi-Goushbolagh, A **Banaei**, Gh Ataei. Estimating the Absorbed Dose of Organs in Pediatric Imaging of ^{99m}Tc-DTPA Radiopharmaceutical using MIRDOSE Software. **Journal of Biomedical Physics and Engineering**. 2019; 9(3): 285-294.
- 6- RG Targhi, A **Banaei**, V Saba. Radioprotective Effect of Grape Seed Extract against Gamma Irradiation in Mouse Bone Marrow Cells. **Journal of cancer research and therapeutics**. 2019; 15(3): 512-516.
- 7- **Banaei A**, Hashemi B, Bakhshandeh M, Mofid B. Evaluation of various common prostate IMRT techniques based on estimated tumor control and normal tissue complication probabilities in correlation with patients anatomical parameters derived from the CT scan. **Polish journal of medical physics and engineering**, 2019;25(1):35-41.
- 8- **Banaei A**, Hashemi B, Bakhshandeh M, Mofid B. Trade-off between the conflicting planning goals in correlation with patients' anatomical parameters for intensity modulated radiotherapy of prostate cancer patients. **Journal of radiotherapy in practice**. 2019;1-7.
- 9- **Amin Banaei**, Dadashi Alireza, Seyed Salman Zakariaee, Saba Valiallah. Assessing the image quality and eye lens dose reduction using bismuth shielding in computed tomography of brain. **Journal of Kerman University of Medical Sciences**. 2018;25(6):471-482.
- 10- Khorramian D, Sistani S, **Banaei A**, Bijari S. Estimation and assessment of the effective doses for radiosensitive organs in women undergoing chest CT scans with or without automatic exposure control system. **Tehran University Medical Journal**. 2017; 75 (7) :496-503.
- 11- Dadsetadi Asl A, Bakhshian M, **Banaei A**, Cheraghi MR, Barkhordari M. Assessment the radiation protection knowledge, attitude and performance of radiology technologists in Tehran military hospitals and their relationship with age, sex, level of education and work experience. **Paramedical Sciences and Military Health**. 2018;4:20-30.
- 12- **Banaei A**. The Comparison between Digital Subtraction Angiography, CT Angiography, and Doppler Ultrasonography in Evaluation and Assessment of Carotid Artery Stenosis, **Annals of Military and Health Science Research**. 2017 ;15(1):e61661. doi: 10.5812/amh.61661.
- 13- **Amin Banaei**, Rezvaneh Norouzi, Razzagh Abedi Firouzjah, Mahdi Elahi. Evaluation and Assessment of Doppler Ultrasonography Results in Comparison with Digital Subtraction Angiography in Diagnosis of Internal Carotid Artery Stenosis. **Paramedical Sciences and Military Health**. 2017;12(2):1-6.

- 14- **Banaei A.** Introducing a Novel Weighted Gamma Evaluation Method for Comparing the Dose Distributions in Radiotherapy. **Paramedical Sciences and Military Health.** 2015; 10 (2):17-25.
- 15- **Amin Banaei,** Mohsen Bakhshandeh, Hamidreza Mirzaei. Introducing a new conformal Mono-Isocentric technique in the chest wall external radiotherapy for the mastectomy patients. **Paramedical Sciences and Military Health.** 2015; 10(1): 1-8.
- 16- Bijari S, **Banaei A,** Kanani M. Assessment of Entrance Skin Doses and Effective Dose for Common X-ray Diagnostic Examinations. **Paramedical Sciences and Military Health.** 2016;3:1-5.
- 17- **Banaei A,** Bijari S. Radiation Protection of Patients in Cardiac CT Angiography. **Paramedical Sciences and Military Health.** 2016;3:34-42.
- 18- **Banaei A.**Evaluation of the Radiobiological Effects and Medical Care Solutions after a Nuclear Detonation. **Paramedical Sciences and Military Health.** 2016;1:45-54.
- 19- Bijari S, **Banaei A,** Rezaei-Joo M. Evaluation of Patients Doses undergoing orthopedic Surgeries using Monte Carlo Simulations and experimental measurements. **Paramedical Sciences and Military Health.** 2017;1:1-5.
- 20- **Amin Banaei,** Bijan Hashemi, Mohsen Bakhshandeh, Bahram Mofid. Assessment and Comparison of Dosimetric and Radiobiological Effects of Various Intensity Modulated Radiation Therapy Techniques in Tumor and Vital Organs including Rectum and Bladder Regarding to Joint Volume Between them and Target Tissue in Prostate Cancer Patients. **Tehran University Medical Journal.** 2019; 77 (2), 92-100.
- 21- Ataei G, Rezaei M, Ebrahimnejad Gorji K, **Banaei A,** Abdi Goushbolagh N, Farhood B, Bagheri M, Abedi Firouzjah R. Evaluation of Dose Rate and Photon Energy Dependence of Gafchromic EBT3 Film Irradiating with 6 MV and Co-60 Photon Beams. **Journal of Medical Signals and Sensors.** 2019; 9(3): 204–210.
- 22- Kourosh Ebrahimnejad Gorji, Razzagh Abedi-Firouzjah, Gholamreza Ataei, **Amin Banaei.** Evaluating Dentists' Awareness of Correct Prescription of Radiographic Exams in Khorramabad, Iran. **Annals of Military and Health Science Research.** 2019; 17(3).
- 23- Nadi S, Elahi M, Moradi S, **Banaei A.** Radioprotective Effect of Arbutin in Megavoltage Therapeutic X-irradiated Mice using Liver Enzymes Assessment. **Journal of biomedical physics & engineering.** 2019;9(5):533.
- 24- Roghiye Bodaghi HosseinAbadi, Zeinab Momeni, Salar Bijari, **Amin Banaei,** Foad Goli Ahmadabad. Entrance Skin Dose and Effective Dose Measurement in the Most Common Diagnostic Radiology Examinations in Jiroft, 2017. **Journal of Jiroft University of Medical Sciences.** 2019;5(2):46-55.
- 25- Nadi S, Abedi-Firouzjah R, **Banaei A,** Bijari S, Elahi M. Dosimetric comparison of level II lymph nodes between mono-isocentric and dual-isocentric approaches in 3D-CRT

and IMRT techniques in breast radiotherapy of mastectomy patients. *Journal of Radiotherapy in Practice*. 2020;19(3):254-8.

26- R Abedi, A Rostamzadfeh, **A Banaei**, M Shafiei, Z Masoumi-Moghaddam, H Vafapour . Exploring changes in thalamus metabolites as diagnostic biomarkers in idiopathic generalized epilepsy patients using magnetic resonance spectroscopy. *Malaysian journal of Medical Sciences*. 2020; 27(1):79-87.

27. Saba Nadi, **Amin Banaei**, Hossein Mozdarani, Ali Shabestani Monfared, Gholamreza Ataei, Razzagh Abedi-Firouzjah. Evaluating the radioprotective effect of arbutin on mice exposed to megavoltage X- rays based on hematological parameters and lymphocytes micronucleus assay. *International Journal of Radiation Research*. 2020; 18(2):58-66.

28- Mehrsa Majdaee, **Amin Banaei**, Razzagh Abedi, Kouros Ebrahimnejad Gorji, Gholamreza Ataei, Farideh Momeni. Investigating the radioprotective effect of sesamol oral consumption against gamma irradiation in mice by micronucleus and alkaline comet assays. *Applied Radiation and Isotopes*. 2020; 159: 109091.

29- Abedi-Firouzjah R, Vafapour H, **Banaei A**, Gorji KE, Najafzadeh M, Ataei G, Momeni F. Data on the cancer risk and mortalities induced by annual background radiations at various ages in Kohgiluyeh and Boyer-Ahmad province, Iran. *Data in Brief*. 2020; 18:105487.

30- Hatami A, Bagheri M, Falahati F, **Banaei A**, Abedi-Firouzjah R, Zamani H, Kiapour M, Momeni F. Estimating the whole-body effective dose and health risks as well as introducing a new easy method for eye lens dosimetry in interventional cardiology procedures. *MethodsX*. 2020;10:101097.

31- Hosseini SM, **Banaei A**, Motlagh ZH, Abedi-Firouzjah R, Falahati F, Zamani H, Moghimi Y. Estimating the cancer risk and mortalities induced by routine digital radiography examinations on patient of different ages in Mazandaran province. *International Journal of Radiation Research*. 2020 1;18(4):875-84.

32- Farideh Momeni, Razzagh Abedi-Firouzjah, Zahra Farshidfar, Nastaran Taleinezhad , Leila Ansari, Ali RazmKon, **Amin Banaei***, Alireza Mehdizadeh. Differentiating between low and high grade glioma tumors measuring apparent diffusion coefficient values in various regions of brain. *Oman Medical Journal*. 2021;26(2):e251.

33- Leyla Ansari, **Amin Banaei**, Leila Dastranj, Mehrsa Majdaeen, Hassan Vafapour, Hamed Zamani, Gholamreza Ataei, Razzagh Abedi-Firouzjah. Evaluating the radioprotective effect of single dose and daily oral consumption of green tea, grape seed, and coffee bean extracts against gamma irradiation. *Applied Radiation and Isotopes*. 2021; 174:109781.

34- Siroos Rahgoshai, Parinaz Mehnati, Mahmoud Reza Aghamiri, Meysam Haghghi Borujeini, **Amin Banaei**, Ali Tarighatnia, Nader D Nader, Mohammad Kiapour, Razzagh Abedi-Firouzjah. Evaluating the radioprotective effect of Cimetidine, IMOD, and hybrid

radioprotectors agents: An in-vitro study. **Applied Radiation and Isotopes**. 2021;174: 109760.

35- Mehrsa Majdaeen, Soheila Refahi, **Amin Banaei**, Mahdieh Ghadimi, Mahdieh Afkhami Ardekani, Nouraddin Abdi Goushbolagh, Hamed Zamani. A comparison of skin dose estimation between thermoluminescent dosimeter and treatment planning system in prostatic cancer: A brachytherapy technique. **Journal of Clinical and Translational Research**. 2021;7(1):77-83.

36-Sahar Sheikholeslami, Tayebah Aryafar, Razzagh Abedi-Firouzjah, **Amin Banaei**, Masoumeh Dorri-Giv, Hamed Zamani, Gholamreza Ataei, Mehrsa Majdaeen, Bagher Farhood. The role of melatonin on radiation-induced pneumonitis and lung fibrosis: A systematic review. **Life Sciences**. 2021;281(15): 119721.

37-Mehrsa Majdaeen, Masoumeh Dorri—Giv, Shaghayegh Olfat, Gholamreza Ataei, Razzagh Abedi-Firouzjah, **Amin Banaei***, Sahar Ranjbar. Skin dose measurement and estimating the dosimetric effect of applicator misplacement in gynecological brachytherapy: A patient and phantom study. **Journal of X-Ray Science and Technology**. 2021;30:1-15.

* Conference articles:

1- **Amin Banaei**, Bijan Hashemi, Mohsen Bakhshandeh. Introducing and evaluating a new method for the design of single-isocentric external photon radiotherapy treatment of breast cancer for Mastectomy patients compared to the common two-isocentric method. Eleventh Iranian Medical Physics Conference. Tehran. Iran. October 2014

2- **Amin Banaei**, Mahdi Elahi. The diagnostic role of multiple SPECT / CT modalities using ^{99m}Tc-MDP combined with SPECT / MRI imaging to detect early and unusual bone metastases. The 19th Annual Iranian Nuclear Medicine Conference. Hamedan. Iran. September 2015.

3- **Banaei A**, Hashemi B, Bakhshandeh M. Evaluating the chest wall external radiotherapy techniques in the mastectomy patients with respect to the level-2 lymph nodes dose assessment. In: 1st international student congress of research integrity evidence-based practice. Kish, Iran. December 2015.

4- **Amin Banaei**, Bijan Hahemi, Mohsen Bakhshandeh, Bahram Mofid. The comparison between different prostate IMRT dose distributions based on the cost function values in IMRT optimization procedure. The second International Clinical Oncology Congress. 2017. Tehran. Iran. (Poster)

5- **Amin Banaei**, Bijan Hahemi, Mohsen Bakhshandeh, Bahram Mofid. The Relationship between the Different Prostate Intensity Modulated Radiation Therapy Techniques and

Patient's Anatomical Parameters. 12th Congress of Iran's Medical Physics. 2018. Tehran. Iran. (Oral Presentation)

6. **Banaei A**, Hashemi B, Bakhshandeh M, Mofid B. Trade-off between the conflicting planning goals in correlation with patients' anatomical parameters for intensity modulated radiotherapy of prostate cancer patients. The Third International Clinical Oncology Congress. 19-21 Dec 2018. Tehran. Iran

7. **Amin Banaei**, Razzagh Abedi-Firouzjah. Diagnostic value of apparent diffusion coefficient measurements in differentiating between benign and malignant glioma tumors. Second National Congress of Bioelectromagnetics: Opportunities and Challenges. 2020. Tehran. Iran. (Oral Presentation)

Books:

Ali Hajipor Talebi, Fateme Entezarian, Najme Bazayr nejad, Zahra Salesi, Amin Banaei. Under Supervision of: Dr. Amin Banaei, and Dr. Nahid Mehrabi. Digital Radiography and PACS. Nikan Teb Publications. 2020. Tehran [in Persian].

Cooperation with Journals:

1-Executive Manager of the "Paramedical Sciences and Military Health" journal

2-Reviewing several scientific articles in the "International Journal of Radiation Research" journal indexing in ISI, and Scopus.

3- Reviewing several scientific articles in the "Iranian Biomedical Journal" journal indexing in PubMed, and Scopus.

4- Reviewing several scientific articles in the "Journal of X-ray sciences and technology" journal indexing in ISI, PubMed, and Scopus.

5- Reviewing several scientific articles in the "Journal of biomedical physics and engineering" journal indexing in PubMed, and Scopus.

6- Reviewing several scientific articles in the "Medical Journal of The Islamic Republic of Iran" journal indexing in PubMed, and Scopus.

English Status

	Very Good	Good	Moderate	Week
Listening		×		
Speaking		×		
Writing	×			
Reading	×			
Grammar	×			

