

**Arash Safari, Ph.D.**

Assistant Professor of Medical Physics  
Department of Radiology, School of Paramedical Sciences,  
Shiraz University of Medical Sciences, Shiraz, Iran



Tel: (Department) +98 (0) 32270238-313

Email: [arash.safari1985@gmail.com](mailto:arash.safari1985@gmail.com) & [safariar@sums.ac.ir](mailto:safariar@sums.ac.ir)

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**POSITIONS**

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**Assistant Professor****2019-present**

Department of Radiology, School of Paramedical Sciences, Shiraz University of Medical Sciences,  
Shiraz, Iran.

**Member of Ionizing and Non-Ionizing Medical Radiation Protection Research Center,  
Shiraz University of Medical Sciences.**

**2014-present**

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**EDUCATIONAL**

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- **Ph.D. (Medical Physics)** *Feb 2016 –Dec 2019*  
Isfahan University of Medical Sciences, Isfahan, Iran  
**Thesis Title:** Synthesis and characterization of iron oxide-gold core-shell nanoparticles and their photo and radio sensitization effect on nasopharyngeal cancer cell (KB)
- **M.Sc. (Medical Physics)** *Oct 2011 -Sep 2014*  
Shiraz University of Medical Sciences, Shiraz, Iran  
**Thesis Title:** Simulation and designing of nano-material-based multi-layered lead-free shields and optimizing radiation attenuation of these shields in diagnostic X- ray photons energy ranges
- **B.Sc. (Physics)** *Oct. 2004-2008*  
Razi University, Kermanshah, Iran
- **Diploma (Mathematics)** *Jun. 2002*

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## RESEARCH PUBLICATIONS

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- **Arash Safari**, Maziyar Mahdavi, Reza Fardid, Alireza Oveisi, Reza Jalli, Masoud Haghani, *Evaluation of hafnium oxide nanoparticles imaging characteristics as a contrast agent in X-ray computed tomography (Submitted)*
- **Khorasani A**, Shahbazi-Gahrouei **D**, **Safari A**. Recent metal nanotheranostics for cancer diagnosis and therapy: a review. *Diagnostics*. 2023 Feb 22;13(5):833.
- **Safari A**, Mortazavi SM, Saraei P. Application of Lead Substitute Shielding Materials for X and Gamma-Rays Attenuation in Diagnostic Radiology: A Review Article. *Journal of Isfahan Medical School*. 2022 Dec 1;40(691):832-42.
- Taeb S, Rostamzadeh D, Mafi S, Mofatteh M, Zarrabi A, Hushmandi K, **Safari A**, Khodamoradi E, Najafi M. Update on mesenchymal stem cells: a crucial player in cancer immunotherapy. *Current Molecular Medicine*. 2023.
- **Safari A**, Sarikhani A, Shahbazi-Gahrouei D, Alamzadeh Z, Beik J, Dezfuli AS, et al. Optimal scheduling of the nanoparticle-mediated cancer photo-thermo-radiotherapy. *Photodiagnosis and Photodynamic Therapy*. 2020:102061.
- Movahedi, M., Tavakoli Golpayegani, A., **Safari, A.**, Amani, S. Effects of Short-term Exposure to Electromagnetic Fields Emitted by 3G and 4G Mobile Phones on Reaction Time and Short-term Memory. *Iranian Journal of Medical Physics*, 2019; 16(3): 250-254.
- R Yahyapour, A Salajegheh, **A Safari**, S Abbasi, P Amini, A Rezaeyan, A Amraee, M Najafi. "Radiation-induced Non-Targeted Effect and Carcinogenesis; Implications in Clinical Radiotherapy". *J Biomed Phys Eng* 2018;
- **Safari A**, Mortazavi SMJ, H Mozdarani. "RadBioStat an Educational Software for Teaching the Random Nature of Cell Killing". *J Biomed Phys Eng* 2014; 4(1)
- MM Movvahedi, A Tavakkoli-Golpayegani, S A R. Mortazavi, M Haghani, Z Razi, MB Shojaiefard, M Zare, E Mina, L Mansourabadi, Nazari-Jahromi, **A Safari**, N Shokrpour, S. M. J. Mortazavi "Does exposure to GSM 900 MHz mobile phone radiation affect short-term memory of elementary school students?", *Journal of pediatric neurosciences*. 2014;9(2):121.

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## BOOK PUBLICATIONS

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- Basics of PET Imaging (Translation into Persian language)

## **STUDENT THESIS ADVISER / SUPERVISION**

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- *M.Sc. Thesis Titles*
  - *Evaluation of Hafnium oxide with Dextrin nanoparticles as radiosensitizer and its synergistic effects with Oxaliplatin for Colon cancer cells (HCT-116) treatment*
  - *Validation study of the LKB radiobiological model in predicting the probability of conductive hearing loss in brain and head-and-neck cancer radiotherapy*
  - *Validation of the LKB radiobiological model for acute alopecia complication probability in patients undergoing radiotherapy of brain tumors*
  - *Assessing the radio-sensitization effect of metformin on the ability of colonization, cell cycle change, apoptosis and expression levels of BAX and Bcl2 genes in breast cancer cell line (MCF7)*
  - *Investigation of Adaptive response of 1800 MHz RF waves used in mobile phones on the expression of apoptotic genes (Bax, Bcl2) in human blood lymphocytes after exposure to 1 Gy of x-ray with(Q-PCR) method*

## **RESEARCH PROJECTS**

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- *Evaluation of organ doses and cancer risk to patients arising from dual-energy CT scans of head and neck by PCXMC program, A retrospective study*
- *Estimation of effective dose and cancer risk for patients undergoing intramedullary nailing surgery guided by C-arm fluoroscopic imaging using PCXMC software at Emtiaz Hospital (Shahid Rajaei Trauma Center), Shiraz, Iran*
- *Effect of short-term exposure to electromagnetic fields emitted by 3-4G and GSM mobile phone on reaction time and short memory.*
- *The high electric fields generated by some common energy saving compact fluorescent lamps.*
- *How efficient are multilayered nano-sized lead-free kilovoltage X-ray shields?*
- *The effect of electromagnetic fields in the range of radio frequency waves on the accuracy of medical thermometers readings.*

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## CLINICAL LAB & WORK EXPERIENCE

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- **Shiraz University of Medical Sciences & Iran University of Medical Sciences** (2018- currently)  
*Theranostic nanoparticles and radiobiology laboratory*  
*Nanoparticle Synthesis and application in cancer diagnosis and treatment,*  
*Cell culture,*  
*Handling laboratory animal*
- **Isfahan University of Medical Sciences** (2017- 2018)  
*Internship Physicist at Sayed-al-shohada radiotherapy center*  
*3D Treatment Planning, QC, Dosimetry*

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## HONORS & AWARDS

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- *Top-Ranked Master's Degree Graduate.*
- *Developing RadBioStat software for learning target theory in Radibiology*
- *Shooting Championship bronze medalist in national sports Olympiad medical sciences university's students*

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## CONFERENCE POSTERS

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- *Safari A, Mortazavi SMJ .et al "optimizing radiation attenuation of nano-material-based multi-layered lead-free shields in diagnostic X-ray photons energy ranges." 11<sup>th</sup> Iranian conference of Medical Physics, Tehran, Iran.*
- *SMJ Mortazavi, AR Mehdizadeh, MA Mosleh-Shirazi, A Safari .et al "How Efficient are Multilayered Nano-Sized Lead-Free Kilovoltage X-Ray Shields?", accepted by the 41st Annual Meeting of the European Radiation Research Society for a poster presentation, September 19, 2014, Rhodes, Greece.*
- *Mortazavi SMJ, Safari A, Haghani M "The High Electric Fields Generated by Some Common Energy Saving Compact Fluorescent Lamps". Presented in Second Non Ionizing Radiation Safety Conference, Shiraz, Iran.*

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## TEACHING EXPERIENCE

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Radiation Physics, Medical Physics for Medical/Paramedical Student, Dosimetry, Radiation Protection, Clinical Radiobiology, Physics of Diagnostic Radiology, General Physics, UltraSonography...

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## **COMPUTER & PROGRAMMING SKILLS**

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*MATLAB, SPSS, EGS.nrc, MCNP, Treatment planning systems*, Graphic design softwares, EndNote, Mendeley

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## **ADMINISTRATIVE EXPERIENCE**

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- *Executive Committee Member of:*
  - *1<sup>st</sup> MEFOMP International Conference of Medical Physics, Shiraz, Iran.*
  - *2<sup>nd</sup> Non-Ionization Radiation Safety Conference, Shiraz, Iran.*
  - *11<sup>th</sup> Iranian conference of Medical Physics, Tehran, Iran.*
  - *Poster Judge in the Graduate Research Symposium 2021 (GRS2021)*
  
- Vice-Chancellery for Postgraduate education in the radiology department

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## **MANUSCRIPT REVIEWER**

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- *Journal of Biomedical Physics & Engineering (Iran)*

