

In the name of GOD



First Name: Seyed Salman

Last Name: Zakariaee

Year of Birth: 1987.05.24

Marital status: Married

Military service status: Fulfilled. Winner of Military Service's Grant, National Elite Organization of Iran, in 2016.

Degrees: Ph.D. in Medical Physics

Current Position: Assistant Professor at Ilam University of Medical Sciences

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Dates Attended	Degree and Field of study	Institution
2001-2004	Diploma in Mathematics & Physics	Ranj-avari High School, Sanandaj , Iran
2005-2009	Bsc in Solid-State Physics	Urmia University, Iran
2010-2013	Msc in Medical Physics	Tabriz University of Medical Sciences, Iran
2013-2018	Ph.D. in Medical Physics	Tehran University of Medical Sciences, Iran

Title of Msc Thesis:

Design and Construction an Optical Computed Tomography (OCT) for gel dosimetry in radiotherapy

Title of PhD Thesis:

Glioma staging by quantitative analyzing of DCE-perfusion MRI images

English Language Ability: Average

Research Projects

- Dosimetric validation of a prototype optical computed tomography (OCT) system using a gel phantom
- The absorbed dose of gastric mucosa in thyroid radionuclide therapy: a Monte Carlo study
- Evaluation of X-ray intensity changes with lumbar vertebral Mal-positioning in bone densitometry (DXA) using practical study and Monte Carlo simulation
- 3D dosimetry of prostate IMRT treatment using PRESAGE Gel
- Evaluation of physiological changes in GBM patients using perfusion and diffusion weighted MRI techniques to evaluate response to radiation therapy combined with chemotherapy
- The critical organ doses of nuclear medicine technicians during the preparation of radioactive materials using TL dosimeter
- Evaluation of double-strand break rate of DNA after treatment with I-131 in patients with differentiated thyroid cancer

JOURNAL PAPER:

1. Effect of anode angle on photon beam spectra and depth dose characteristics for X-RAD 320 orthovoltage unit, Asghar Mesbahi, Seyed Salman Zakariaee , Practical Oncology and radiotherapy , 3(18): 148-152, 2013.
2. Optical Characterization of NIPAM and PAGAT polymer gels for radiation dosimetry, Asghar Mesbahi, Seyed Salman Zakariaee , Iranian Journal of Medical Physics , 2013, 10(4)& 11(1):188-194, 2014.
3. Design and construction of an Optical Computed Tomography scanner for polymer gel dosimetry application, Seyed Salman Zakariaee, Asghar Mesbahi, Ahmad Keshtkar, and Vahid Azimi Rad, Journal of Medical Signals & Sensors, 4(2): 130-138, 2014.
4. Dosimetric optimization of a colpostat in a Cobalt-60 High Dose Rate brachytherapy unit for bladder sparing, Seyed Salman Zakariaee , Seied Rabi Mahdavi, Brachytherapy journal, 14: 37-45, 2015.
5. Validation of a prototype Optical Computed Tomography system, Seyed Salman Zakariaee, Mikaeil Molazadeh, Abbas Takavar, Alireza Shirazi, Asghar Mesbahi, Ahad Zeinali, Journal of Medical Signals & Sensors 2015, 5(2): 123-130.
6. Assessment of target volume doses in radiotherapy based on the standard and measured calibration curves. Gholamreza Fallah Mohammadi, Nader Riyahi Alam,

- Hamed Rezaeejam , Tayyeb Allahverdi Pourfallah, Seyed Salman Zakariaee. *J Can Res Ther* 2015;11:586-91.
7. The effect of the lumbar vertebral Mal-positioning on bone mineral density measurements of lumbar spine by dual energy X- ray absorptiometry (DXA). Shima Golbarg, Abbas Takavar, Sina Izadyar, Hossein Ghadiri, Mohammad Barbarestani, Mahmood Mahmoodi, Seyed Salman Zakariaee. *J Clin Densitom.* 2016; 19(3):277-81.
 8. Gastrointestinal side effects of the radioiodine therapy for the patients with differentiated thyroid carcinoma two days after prescription. Mehran Pashnehsaz, Abbas Takavar, Sina Izadyar, Seyed Salman Zakariaee, Mahmood Mahmoudi, Reza Paydar, Parham Geramifar. *World J Nucl Med* 2016;15: 173-8.
 9. Parameters affection conductivity of mineralized carbon nanofiber: An investigation with artificial neural network. Hadi Samadian, Seyed Salman Zakariaee, Mahdi Adabi, Hamid Mobasheri, Mahmood Azami, Reza Faridi-Majidi. *RSC advances* 2016; 6, 111908-111918.
 10. A Mathematical Head Phantom for Dosimetry Measurements by Monte Carlo Method. Seyed Salman Zakariaee, Valialah Saba. *Paramedical Sciences and Military Health.* 2016; 11(3): 12-20.
 11. Study the Effect of Gantry Tilting and Tube Voltage Reducing on the Eye Lens Dose Reduction in Computed Tomography Using MCNPx. Seyed Salman Zakariaee, Valiallah Saba, Abdollah Valizadeh. *Paramedical Sciences and Military Health.* 2017; 12(1): 39-49.
 12. Assessing the image quality and eye lens dose reduction using bismuth shielding in computed tomography of brain. Amin Banaei, Alireza Dadashi, Seyed Salman Zakariaee, Valiallah Saba. *Journal of Kerman University of Medical Sciences* 2018; 25 (6): 471-482
 13. Evaluation of effective parameters controlling nanofibers diameter. Hadi Samadian, Seyed Salman Zakariaee, Reza Faridi-Majidi. *The journal of the textile institute* 2018:1-10.
 14. Comparison of the inverse logistic model and the canonical HRF plus its temporal derivative in estimating the hemodynamic response function in healthy areas of the brain and brain tumors. Mahboobe Seyed Abbasi, Seyed Salman Zakariaee, Abbas Rahimiforushani. *The Neuroscience Journal of Shefaye Khatam.* 2018; 6(3): 1-9.
 15. Regional assessment of left ventricle's function by global thresholding on unified left ventricular wall motion field. Hassan Khajehpour, Seyed Salman Zakariaee, Saeed Kermani, Masoud Moslehi. *Iranian journal of radiology.* 2018, In revised stage.
 16. Physical, dosimetric and clinical aspects and delivery systems in Neutron Capture Therapy. Bagher Farhood, Hadi Samadian, Seyed Salman Zakariaee,

- Courtney Knaup. Reports of practical oncology and radiotherapy 2018; 23: 462–473.
17. Assessment of the Agreement between Cerebral Hemodynamic Indices Quantified Using Dynamic Susceptibility Contrast and Dynamic Contrast-enhanced Perfusion Magnetic Resonance Imagings. Seyed Salman Zakariaee, Mohammad Ali Oghabian, Kavous Firouznia, Guive Sharifi, Farshid Arbabi, Farhad Samiei. J Clin Imaging Sci 2018;8(2): 1-9.
 18. Hemodynamic Response Function Modeling to Determine the Areas with High Blood Supply in Block-Design fMRI Experiments. Mahboobe Seyed Abbasi, Mohammad Ali Oghabian, Seyed Salman Zakariaee, Abbas Rahimiforoushani. Achieve of Neurosciences 2019 January; 6(Special Issue):e82585.
 19. Sensitivity Uniformity Ratio as a New Index to Optimize the Scanning Geometry for Fluorescent Molecular Tomography. Anita Ebrahimpour, Seyed Salman Zakariaee, Marjaneh Hejazi. Journal of Medical Signals & Sensors 2019; 9:42-9.

Articles Presented in Seminars and Congresses

1. Proton in diagnosis and treatment, Review, Salman Zakariaee S, Piraiesh Eslamian J, the 1st MEFOMP International Conference of Medical Physics, J Biomed Phys Eng, 1(Suppl 1), PP.218, Shiraz, 2011.
2. Nuclear Medicine breast imaging: Current status and future directions. Seyed Salman Zakariaee, Shima Golbarg, Seyedeh Soma Zakariaee. 10th International Breast Cancer Congress, 25-27 Feb 2015, Tehran, Iran.
3. Pregnant women' knowledge, attitudes and perceptions towards breast cancer prevention: a questionnaire study in Besaat hospital in Sanandaj. Seyedeh Soma Zakariaee, Seyed Salman Zakariaee. 10th International Breast Cancer Congress, 25-27 Feb 2015, Tehran, Iran.
4. Clinical utility of positron emission mammography for breast cancer screening. Seyed Salman Zakariaee, Shima Golbarg, Seyedeh Soma Zakariaee. 10th International Breast Cancer Congress, 25-27 Feb 2015, Tehran, Iran.
5. Tissue mismatches correction in image registration by image processing methods. Seyed Salman Zakariaee. 6th International and 18th Iranian Congress of Nuclear Medicine, 12-14 November 2014, Tehran, Iran.
6. Factor affecting the accuracy of bone material density measurements by DXA unit. Shima Golbarg, Seyed Salman Zakariaee. 6th International and 18th Iranian Congress of Nuclear Medicine, 12-14 November 2014, Tehran, Iran.
7. Design and construction of a prototype optical computed tomography system for gel dosimetry. Seyed Salman Zakariaee and Asghar Mesbahi. First national congress of accelerators and their applications. 27-28 Nov 2013, Tehran, Iran.
8. Noise reduction in images of a prototype optical computed tomography (OCT) system. Seyed Salman Zakariaee. 11th Iranian congress of medical physics. 6 - 7 November 2014, Tehran, Iran.

9. Tissue mismatches correction in combined images: an image processing study. Seyed Salman Zakariaee. 11th Iranian congress of medical physics. 6 - 7 November 2014, Tehran, Iran.
10. Neutron contamination caused by linear accelerators in the treatment room, a review study. Abbas Takavar, Seyed Salman Zakariaee. 11th Iranian congress of medical physics. 6 - 7 November 2014, Tehran, Iran.
11. An optical scanning system based on laser and photocell detector for gel dosimetry. Seyed Salman Zakariaee and Vahid Lohrabian. 9th Annual congress of Iranian Laser Medicine Association and 2nd Congress of Laser Application in Medical Sciences. 31 Dec-2 Jan 2015, Tehran, Iran.
12. Gel dosimetry based on optical scanning methods. Mubarak al-Sadat Mahdavi, Seyyed Rabi Mahdavi, Kaikhosro Keshavarzi, and Seyed Salman Zakariaee. 9th Annual congress of Iranian Laser Medicine Association and 2nd Congress of Laser Application in Medical Sciences. 31 Dec 2014-2 Jan 2015, Tehran, Iran.
13. Low-Frequency Ultrasound (LFUD, Sonoca 180/185) to debridement and heal of the chronic wounds. Hamed Dehghani, Seyed Salman Zakariaee, Hamid Sharini. Chronic Wound Congress, 28-29 May 2015, Sari, Iran.
14. Low-Frequency Ultrasound in non-touch mode (NLFU) to treat chronic wounds. Hamed Dehghani, Seyed Salman Zakariae, Hamid Sharini. Chronic Wound Congress, 28-29 May 2015, Sari, Iran.
15. Detection of sleep stages based on the entropy and relative spectral power of the EEG signal: a neural network study. Hamed Dehghani, Seyed Salman Zakariaee, Hamid Sharini. First national congress of electrophysiology, 20-22 May 2015, Tehran, Iran
16. Colorectal cancer treatment using hyperthermia along to the chemotherapy and radiation treatments. Seyed Salman Zakariaee, Hamed Dehghan , Hamid Sherini. 7th Iranian Congress of Colorectal Cancer, 27-28 May 2015, Tehran, Iran .
17. Assessment of modern radiation treatments for patients with Hodgkin's lymphoma. Seyed Salman Zakariaee, Hamed Dehghan, Hamid Sherini. The first international congress of challenges in pediatric hematology and oncology (CPHO), 16-18 September 2015, Tehran, Iran.
18. Evaluation of the choline based metabolites for breast cancer diagnosis. Hamed Dehghan, Seyed Salman Zakariaee, Hamid Sherini. 1st International and 8th Annual Tehran Breast Cancer Congress, 28-30 October 2015, Tehran, Iran.
19. Evaluation of the advanced neuroimaging techniques to determine the pediatric brain tumors. Fariba Allahmoradi, abbas Haghparast, Seyed Salman Zakariaee. Iran J Radiol. 2017 May; Special issue(5):S102.
20. Apparent Diffusion Coefficient Value as a Predictive Marker to Evaluate Tumor Response in Patients with Cervical Cancer. Fariba Allahmoradi, Abbas Haghparast, and Seyed Salman Zakariaee. Iran J Radiol. 2017 May; Special issue(5):S49.
21. Application of diffusion-weighted MRI method in oncology. Fariba Allahmoradi, Abbas Haghparast, and Seyed Salman Zakariaee. Iran J Radiol. 2017 May; Special issue(5):S141.

22. A comparison on the magnitude and complex-valued methods to detect the brain activation, application to functional MRI. Soodeh Moaleman, Seyed Salman Zakariaee. Second National and First International Conference on Soft Computing. 22-23 November 2017, Guilan, Iran.
23. Role of Apparent diffusion coefficient value in Diffusion Weighted imaging of MRI to assessment of radiotherapy efficiency in the patient with glioma tumor during treatment. Fariba Allahmoradi, Abbas Haghparast, Seyed Salman Zakariaee, Farhad Naleini. Iranian Journal of Medical Physics 2018 December. Volume 15(Special Issue-12th) Iranian Congress of Medical Physics, 301-301.
24. Classification of breast tumors based on texture and shape features in ultrasound images: a neural network study. Sepideh Dashtipour and Seyed Salman Zakariaee. 7th Students' Regional Congress of Ilam University of Medical Sciences. 5-6, March 2019, Ilam, Iran
25. The reasons and strategies for reducing the frequency of awakening and consciousness during general anesthesia. Maryam Abouli and Seyed Salman Zakariaee. 7th Students' Regional Congress of Ilam University of Medical Sciences. 5-6, March 2019, Ilam, Iran.

Certificates:

International Workshop On Advances In Radiotherapy Physics & Technology
Optimization of breast radiotherapy
Breast MRI
Hyperthermia in breast radiation treatments
3D treatment planning and new radiotherapy techniques in breast cancer
Advanced scientific paper writing in English
Statistical software, SPSS
Primary search methods
The search for electronic resources
End Note
ICDL- advanced level: IT1
Advanced Bioinformatics-polymer designing
Primary scientific paper writing in Persian
fMRI imaging and data analysis by FSL
Brain structural analysis by SPM and Freesurfer

Workshop lecturer

- Functional and Structural Brain Connectivity
- Magnetic Resonance Spectroscopy, Diffusion, Perfusion: Imaging and Data analysis
- Practical Demonstration PWI: Imaging and Data analysis
- Introduction of E-learning Management System (LMS)
- Introduction of Microsoft Excel software
- How to Write a Proposal
- Creativity

Research Interests:

Monte Carlo dose calculations in radiation treatments, Radiation Dosimetry, Radiation Protection, Nuclear Medicine, Optimization of the imaging systems, Advanced medical imaging, and Image processing.

Teaching experiences:

- **Practical medical physics course** as assistant professor (from 2011to2012) for Medical, Pharmacy, and Dentistry students in Department of Medical Physics, Tabriz University of Medical Sciences, Tabriz, Iran.
- **Image processing (MATLAB)** as assistant professor (from 2011to2012) for Radiology students in Department of Medical Physics, Tabriz University of Medical Sciences, Tabriz, Iran.
- **MATLAB in ultrasound simulation** as assistant professor (from 2013 to 2014) for Ph.D. students of Medical Physics in Department of Medical Physics, Tehran University of Medical Sciences, Tehran, Iran.
- **Physics for physiotherapy students** (at 2015) for Physiotherapy students in Department of Medical Physics, Tehran University of Medical Sciences, Tehran, Iran.
- **Practical medical physics course** (from 2016 to 2018) for Medical and Pharmacy students in Department of Medical Physics, Tehran University of Medical Sciences, Tehran, Iran.

- **Practical medical image processing** (from 2017 to 2018) for MSc and PhD students of Medical Physics in Department of Medical Physics, Tehran University of Medical Sciences, Tehran, Iran.
- **Advanced medical imaging methods** (at 2018) for MSc students of Medical Imaging in Department of Medical Physics, Tehran University of Medical Sciences, Tehran, Iran.
- **Ionizing radiation dosimetry** (at 2017) as assistant professor for MSc students of Medical Physics in Department of Medical Physics, Tehran University of Medical Sciences, Tehran, Iran.
- **“Medical physics”, “Biophysics”, “Technical principles of laboratory equipment”, “General physics and Practical general physics course”, “Medical physics and electricity and robotics and its applications in robotics”, “Introduction to common radiology images in the operating room”, “Dedicated physics for occupational health students” and “Radiology, sonography, and electrology for midwifery and women”** (from 2018 to present) for under-graduated students in paramedical sciences, midwifery, and health faculties, Ilam University of Medical Sciences, Ilam, Iran.
- **Medical physics** (from 2018 to present) for Medical and Dentistry students in Department of Medical Physics, Ilam University of Medical Sciences, Ilam, Iran.
- **Laser and its application in dentistry** (from 2018 to present) for Dentistry students in Department of Medical Physics, Ilam University of Medical Sciences, Ilam, Iran.

Clinical experiences:

The assistant of Physicist: Radiation Oncology Department of Tabriz University of Medical Sciences: 3 months - part time At 2011.

The assistant of Physicist: Medical Imaging Center, Imam Khomeini Hospital, Tehran University of Medical Sciences: 3 years – From 2016 to 2018.

Memberships

1. Iranian society of medical physics, from 2013 to present.
2. Iranian radiation protection society from 2014 to present.
3. Iranian nuclear science society from 2014 to present.
4. National Elite Organization of Iran

OTHER QUALIFICATIONS/CAPABILITIES:

Simulation	MCNP
Image processing	FSL ‘SPM ‘MATLAB ‘DTI Explorer ‘ Freesurfer and etc.
Data analyzing	SPSS and Matlab
Dosimetry	Conventional dosimetry, MRI & CT Gel dosimetry
Medical Imaging Physics	MRI, CT, Radiography
Computer Programming Language	MATLAB
Computer Operating System	Microsoft Windows (Windows 98, XP, 2007, 2010)
Microsoft Windows Computer Applications (Software/Program)	Word (word processor) Excel (spreadsheet, statistics) PowerPoint (presentation) Outlook Express (e-mail) Internet Explorer (Internet browser)
Language Skills	Kurdish; Mother tongue Persian; National language English; Good, MCHE certificated