

Asra Sadat Talebi

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EDUCATION

TARBIAT MODARES UNIVERSITY, TEHRAN, IRAN

Doctor of Philosophy, Medical Physics

Feb.2022

Thesis title: Increasing the quality of Cerenkov luminescence and SPECT images and the dose estimation by adding nanoparticles in radioembolization: A Monte Carlo study

Graduated With Rank 1 Among P H. D. Students in Medical Physics

GPA: 4.0/4.0

SEM NAN UNIVERSITY OF MEDICAL SCIENCES, SEMNAN, IRAN

Master of Science, Medical Physics

Jan:2015

Thesis title: Influence of brass compensator thickness and field size on neutron contamination around medical linear accelerator with and without flattening filter: A Monte Carlo study

Graduated With Rank 1 Among master Students in Medical Physics

GPA: 4.0/4.0

TABRIZ UNIVERSITY, TABRIZ, IRAN

Bachelor of Science, Atomic Physics

Aug:2015

GPA: 3.0/4.0

RESEARCH INTERESTS / RESEARCH PROFILE

- Improving the quality of Y-90 SPECT and Y-90 PET images in radioembolization
- PET imaging during radiotherapy by photon, proton, and carbon beams via induced positrons
- Utilizing the Cherenkov radiations in the determination of radiation dose during radionuclide therapy
- Internal dosimetry in radionuclide therapy by generating digital phantoms of various organs

RESEARCH EXPERIENCE

Postdoctoral Fellow

TARBIAT MODARES UNIVERSITY, TEHRAN, IRAN

Title: Creating hyperthermia due to the production of Cherenkov radiation in the tumor and improving the quality of PET images using nanoparticles in radioembolization of liver cancer: A Monte Carlo study

PUBLICATIONS / PRESENTATIONS / ABSTRACTS

- Precision individual dosimetry in Yttrium-90 Transarterial Radioembolization in the presence of Au nanoparticles, Asra Sadat Talebi, Hossein Rajabi, Hadi Rezaei, Parham Geramifard, Physical and Engineering Sciences in Medicine, under review
- Lifetime Attributable Risks (LARs) of cancer in fetus associated with maternal radiography examinations. Asra Sadat Talebi, Rogheyyeh Bodaghi, Saeed Bagherzadeh. International Journal of Radiation Biology. accepted.2023
- Spread-out of Bragg peak of proton beam using Au nanoparticles, Asara Sadat Talebi, Hossein Rajabi. Under review. International journal of radiation research.
- Role of nanoparticles in transarterial radioembolization with glass microspheres, Asra Sadat Talebi, Hossein Rajabi, Hiroshi Watabe. Annals of Nuclear Medicine.2022
- Developing a protocol for 90Y bremsstrahlung imaging after Transarterial Radioembolization, AS Talebi, H Rajabi, Journal of Instrumentation.2022
- Characteristic X-rays planar imaging of 90Y and Nanoparticles-loaded resin microspheres, AS Talebi, H Rajabi, Applied radiation and isotopes. accepted.2022
- A Monte Carlo study on Photoneutron Spectrum around Elekta SL75/25 18 MV linear accelerator, AS Talebi, P Hejazi, M Jadidi, R Ghorbani. International Journal of Advanced Biological and Biomedical Research.2016

- The Influence of Brass Compensator Thickness and Field Size on Neutron Contamination Spectrum in 18MV Elekta SL 75/25 Medical Linear Accelerator with and without Flattening Filter: A Monte Carlo Study, AS Talebi, M. Maleki, P Hejazi, M Jadidi, R Ghorbani. Journal of biomedical physics & engineering,2018
- Cerenkov luminescence imaging of γ -90 and nanoparticles loaded glass microspheres, IV Geant4 International User Conference,2022, oral presentation
- The investigation of ^{166}Ho and ^{177}Lu as theranostic radionuclides in radioembolization, a comparison with ^{90}Y , Asra Sadat Talebi, Abbas Emamyari. Hossein Rajabi. 23rd Iranian nuclear annual congress.2019, oral presentation
- Electron Beam Dose distributions and skin dose variation due to unwanted air gaps between bolus and breast during post-mastectomy Radiation therapy,AS Talebi, P Hejazi, M Jadidi, - international congress cancer and early detection integration of research and action.2017, oral presentation
- Influence of the internal metallic port in breast tissue expander on the electron beam dose distribution in post mastectomy radiation therapy: a Monte Carlo study,AS Talebi, P Hejazi, M Jadidi .11th International Breast Cancer Congress.2015, oral presentation
- Influence of the free flattening filter 10, 15 and 18 MV photon beams on photoneutron spectrum in the radiotherapy treatment room: a Monte Carlo study,AS Talebi, P Hejazi, 1th international congress of paramedical sciences,2015, oral presentation
- Electron beam dose distributions and skin dose for patients with tissue expanders in post mastectomy radiation therapy: a Monte Carlo study, AS Talebi, P Hejazi, M Jadidi,the second annual research congress of Semnan university of medical sciences.2014, oral presentation
- Monte carlo calculation of photoneutrons source in Elekta SL75/25 linear accelator,AS Talebi, P Hejazi, M Jadidi, international student congress.ISC 2017, oral presentation
- The effect of the multileaf collimator and compensator on the contaminated neutron production in medical linear accelator, AS Talebi, P Hejazi, the second annual research congress of Semnan university of medical sciences.2014, oral presentation

Internship

Tehran University of Medical Sciences, Research Center for Nuclear Medicine, Tehran, Iran

HONORS & AWARDS

- Rank 3 in P.H.D entrance exams among 1500 candidates
- The top researcher among the students of the medical sciences Faculty at Tarbiat Modares University

SKILLS

Programing Languages

- C++
- Python
- MATLAB

Monte Carlo simulation codes

- GEANT4
- GATE
- MCNP
- FLUKA
- BEAMnrc

Image reconstruction software

- STIR
- CASTOR

Others

- ROOT
- LINUX/UNIX
- SPSS
- OriginLab