In the Name of God

Curriculum Vitae

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Mahmoud Bagheri

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PhD of Medical Physics

Assistant Professor of Medical Physics. Department of Medical Physics and Radiation Therapy.

Arak University of Medical Sciences, Arak, Iran

EDUCATIONS

Tehran University of Medical Sciences, Tehran, Iran

PhD of Medical Physics, 2017-2023

Thesis: Application of deep learning method for digitally stain of ex-vivo confocal microscopy images of the basal cell carcinoma (BCC)

Supervisor: Prof. Marjaneh Hejazi

Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Master of Science in medical Physics, 2013-2016

Thesis: Patient specific dosimetry in GATE Monte Carlo code for pediatric imaging of 99mTc-Dimercaptosuccinic Acid (DMSA)

Supervisor: Assistant Professor Ali Asghar Parach

University of Arak, Arak, Iran

Bachelor of Science in Physics, 2008-2012

ACADEMIC EXPEINCES AND SKILLS

Research Center for Science and Technology in Medicine

- Optical microscopy
- Photodynamic therapy
- Machine Learning

- Deep Learning

Tehran University of Medical Sciences

- Medical imaging
- Nuclear medicine and MCNP simulation
- Radiobiology, Radiotherapy and Dosimetry
- Brain Stimulation (Transcranial Magnetic Stimulation, transcranial Direct-Current Stimulation)

Shahid Sadoughi University of Medical Sciences

- Development of patient specific dosimetry in nuclear medicine
- MRI based attenuation correction
- Physicist in Shahid Sadoughi Nuclear Medicine Center
- GATE Monte Carlo simulation
- MATLAB (Image Processing, Programming, Data and Curve Fitting Tools)
- Insight Segmentation and Registration Toolkit (ITK)
- Python

Teaching Experience

Tehran University of Medical Sciences, Faculty of rehabilitation

- Physics for physiotherapy
- Physics for radiology technologist students
- Teacher Assistant (TA)

Shahid Sadoughi University of Medical Sciences

- Medical Physics laboratory
- Biophysics for laboratory science students
- Nuclear medicine

Khomein University of Medical Sciences

- Biophysics for laboratory science students
- Physics of anesthesiology

Computer & programming skills

Operating System: Windows, Linux

MATLAB

GATE, MCNP, Zemax

OpenCV

ENDNOTE, Statistical analysis softwares (SPSS, Excel)

Insight Segmentation and Registration Toolkit (ITK)

Honor and awards

- Honored the Shahid Ahmadi Roshan project, National Elite Foundation, 2020
- Honored the Sayad shirazi, National Elite Foundation, 2020
- Ranked 1 in Medical Physics comprehensive examination, Tehran University of Medical Sciences, 2020

Work Experience

- Researcher at Advanced Medical Technologies and Equipment Institute, Tehran, 2017
- Neurotherapist of Repetitive Transcranial Magnetic Stimulation (rTMS) at Neuraly center
- Neurotherapist of transcranial Electrical Stimulation (tES) at Neuraly center
- Reviewer of Journal of Shahid Sadoughi University of Medical Sciences, Yazd, 2019-2020

Workshops

- Electrical and magnetic stimulation methods of brain training course: research and clinical applications. NBML, 496-4160041183.
- Artificial intelligence and python bootcamp. Hamrah Academy
- Python image processing. University of Tehran, Department of Geomatics Engineering by Utech Academy.

JOURNAL PUBLICATIONS

1. Mahmoud Bagheri et al. Patient-Specific Dosimetry for Pediatric Imaging of 99mTc-Dimercaptosuccinic Acid with GATE Monte Carlo Code; Radiation Protection Dosimetry, 2017; 1-10

2. M Bagheri, et al. The Estimation of 99mtc DMSA Absorbed Dose in Renal Scintigraphy of Pediatric Patients Using MIRDOSE Software and Planar/SPECT Hybrid Method; Journal of Shahid Sadoughi University of Medical Sciences,(in Persian) 2016 ;24(8): 649-58

3. Seyed Hossein Razavi; Faraz Kalantari; **Mahmoud Bagheri**; Nasim Namiranian; Reza Nafisi Moghadam; Alireza Mardanshahi; Alireza Emami-Ardekani; Mohammad Sobhan Ardekani; Seid Kazem Razavi-Ratki Characterization of low, medium and high energy collimators for common isotopes in nuclear medicine: A Monte Carlo study. Iranian Journal of Nuclear Medicine. 2017, 25; 100-104

4. Sedigheh Taghizadeh, Ali Asghar Parach, Seid Kazem Razavi-Ratki , **Mahmoud Bagheri**, The estimation of body organs absorbed dose induced by 99mTc –MDP radiopharmaceutical in the patients undergoing bone scan by specific dosimetry and planar/SPECT hybrid method; Journal of Shahid Sadoughi University of Medical Sciences,(in Persian) 2018 ;26(6): 463-72.

5. Hamid Mohammad Sadeghi, Amirhossein Mansourabadi, Mohammad Ebrahim Rezvani, Mojtaba Ghobadi, Nastaran Razavi and **Mahmood Bagheri**. Salvigenin has Potential to Ameliorate Streptozotocin-induced Diabetes Mellitus and Heart Complications in Rats. British Journal of Medicine & Medical Research. 2016

6. Gholamreza ataei, Maral rezaei, Kourosh Ebrahimnejad Gorji, Amin banaei, Nouraddin abdi Goushbolagh, Bagher farhood, **Mahmoud Bagheri**, Razzagh abedi 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 & Sensors. 2019.

7. Elias Ebrahimzadeh, Mehran Nikravan, Maedeh Nikravan, Mohammad Sajad Manuchehri, Sana Amoozegar, Mohammadjavad Rahimi Dolatabad, **Mahmoud Bagheri**, Morteza Zangeneh Soroush. Simultaneous EEG-fMRI: A Multimodality Approach to Localize the Seizure Onset Zone in Patients with Epilepsy. International Journal of Biology and Medicine, 2019.

8. **Mahmoud Bagheri**, Masoumeh DorriGiv, Marjaneh Hejazi, Mohammad Reza Fouladi, Ali Asghar Parach. Data on biodistribution and dose calculation of 99mTechnetium -Dimercaptosuccinic acid in pediatric patients using a hybrid planar/single emission computed tomography method. Data in Brief Volume 32, October 2020.

9. Alireza Hatami, **Mahmoud Bagheri**, Farzaneh Falahati, Amin Banaei, Razzagh Abedi-Firouzjah, Hamed Zamani, Mohammad Kiapour, Farideh Momenig; 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 Volume 7, 2020.

10. **Mahmoud Bagheri**, Mohammad Reza Fouladi, Razzagh Abedi-Firouzjah. An Investigation of Natural Background Radiation and Health Risk Assessment in Kohgiluyeh and Boyer-Ahmad Province, Iran. Annals of Military and Health Sciences Research: Vol.18, issue 4, December 28, 2020.

11. Alaba Tolulope Agbele, Sedigheh Marjaneh Hejazi, Ahmad Reza Dehpour, Razieh Mohammad Jafari, Arash Elyassi, **Mahmoud Bagheri**, and Mojtaba Seydi. Treatment Parameters of Photobiomodulation in the Prevention of Non-surgical Cancer Treatment-Induced Oral Mucositis: A Review of Preclinical Studies. Journal of Lasers in Medical Sciences (JLMS), Published online 2021 Sep 29.

12. **Mahmoud Bagheri**, Alireza Ghanadan, Maryam Daneshpazhooh, Fatemeh Atyabi, Marjaneh Hejazi. Cycle-consistent Generative Adversarial Network for computational hematoxylin-and-eosin staining of fluorescence confocal microscopic images of basal cell carcinoma tissue. BMC Cancer journal.

13. Alaba Tolulope Agbele, Sedigheh Marjaneh Hejazi, Ahmad Reza Dehpour, Razieh Mohammad Jafari, Arash Elyassi, **Mahmoud Bagheri**, Babak Arji and Mojtaba Seydi. Development and application of prototype system based on light emitting diode arrays (660 nm) with a top hat beam profile in order to optimize photobiomodulation protocols for treatment of radiation-induced oral mucositis in rats. Photomedicine, and Laser Surgery.

14. **Mahmoud Bagheri**, Alireza Ghanadan, Mobin Saboohi, Maryam Daneshpazhooh, Fatemeh Atyabi, Marjaneh Hejazi; Virtual histology staining of skin tissue using ex vivo confocal microscopy and deep learning, Journal of Biomedical Physics and Engineering (accepted).

15. **Mahmoud Bagheri**, Javad Hosseini Nejad, Hassan Tavakoli, Seyed Abbas Tavallaie, Aliakbar Karimi Zarchi; Assessing Transcranial Magnetic Stimulation effects in treatment-resistant depressive patients using electroencephalography; Frontiers in Biomedical Technologies (accepted).

Conference Papers

1. Mahmoud Bagheri, Ali Asghar Parach, Milad Najafzadeh, Sied Kazem Razavi-Ratki, Reza Nafisi-Moghadam, Mohammad Ali Jelodari, Activity estimation, bio-kinetic analysis and

patient-specific dosimetry of 99mTc- Dimercaptosuccinic Acid (DMSA) in pediatric patients. Twenty-second Annual Iranian Nuclear Medicine Conference (oral presentation)

2. Milad Najafzadeh, **Mahmoud Bagheri**, Sied Kazem Razavi-Ratki, Mohammad Ali Jelodari, Ali Asghar Parach. Assessment of organ absorbed dose associated with 99mTc DMSA Renal Scintigraphy of Pediatric using MIRDOSE Software. Twenty-second Annual Iranian Nuclear Medicine Conference (oral presentation)

3. Milad Najafzadeh, **Mahmoud Bagheri**, Sied Kazem Razavi-Ratki, Evaluation of low, medium and high energy collimators for common isotopes in nuclear medicine using SIMIND Monte Carlo code. Twenty-second Annual Iranian Nuclear Medicine Conference (oral presentation)

4. Mahmoud Bagheri, Milad Najafzadeh, Mohammad Ali Jelodari, Sied Kazem Razavi-Ratki, Organ absorbed does estimates in pediatric patients due to 99mTc-DTPA radiopharmaceutical using MIRDOSE software. Twenty-second Annual Iranian Nuclear Medicine Conference (oral presentation)

5. Sedigheh Taghizadeh, Ali Asghar Parach, Sied Kazem Razavi-Ratki, **Mahmoud Bagheri**, Mohammad Ali Jelodari, The estimation of body organs absorbed dose induced by 99mTc – MDP radiopharmaceutical in the patients undergoing bone scan by specific dosimetry and planar/SPECT hybrid method. Twenty-second Annual Iranian Nuclear Medicine Conference (oral presentation)

6. Sedigheh Taghizadeh, Ali Asghar Parach, Sied Kazem Razavi-Ratki, **Mahmoud Bagheri**, Mohammad Ali Jelodari,The estimation of body organs absorbed dose induced by 99mTc –MDP radiopharmaceutical in the patients undergoing bone scan by NCAT phantom and GATE Monte Carlo code. Twenty-second Annual Iranian Nuclear Medicine Conference (oral presentation).

7. **Mahmoud Bagheri**, Alireza Ghanadan, Maryam Daneshpazhooh, Fatemeh Atyabi, Marjaneh Hejazi; Unsupervised Deep Learning approach stain translation of Basal Cell Carcinoma pathology images. The first international congress of artificial intelligence in medical sciences (Oral presentation)

Academic projects and experiences

- Transcranial direct current electrical stimulation (tDCS) in people with depression and obsessive-compulsive disorder. Tehran University of Medical Science
- Evaluation of the therapeutic effect repetitive Transcranial Magnetic Stimulation (rTMS) in treatment depression with comorbid anxiety disorders using electroencephalographic (EEG) signals. Baqiyatallah university of medical sciences
- Production of transcranial electrical stimulation device of the brain in the treatment of drug-resistant obsessive-compulsive disorder. National Elite Foundation
- Application of deep learning method for digitally stain of ex-vivo confocal microscopy images of the basal cell carcinoma (BCC). Tehran University of Medical Science

- Using artificial neural network to detect skin cancer in dermoscopic and histopathological images. Tehran University of Medical Science

Languages

- Persian (native)
- Turkish (native)
- English (good reading and writing)

REFERENCES

Prof. Majanneh Hejazi, PhD,

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Assistant Prof. Ali Asghar Parach PhD,

Assistant Professor of Medical Physics, Department of Medical Physics, Shahid Sadoughi University of medical sciences, Yazd, Iran. Email: **aliparach@ssu.ac.ir**