



He received his Ph.D. in medical physics from Tarbiat Modares University in 2010. He is currently working as an associate professor in the medical physics and biomedical engineering department, Shahid Beheshti University of Medical Sciences (SBMU), Iran. Also he is the head of medical physics unit at Emam Hossein hospital. His areas of interests are in radiation therapy physics, radiotherapy treatment planning, quality control and quality assurance in radiotherapy procedure, and Risk assessment and risk analysis. He has some experience and publication in these areas.

Ahmad – Mostaar

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Skill Highlights

- Radiotherapy Treatment Planning
- Linac QA
- Plan QA
- Linac Commissioning
- Teaching Medical Physics
- Computer Programming

Languages

English:

Good

Education

[Sep 2005 – July 2010] Tarbiat Modares University, Medical Physics Department. Tehran, Iran

Ph.D degree of Medical Physics

[Sep 2000 – Dec 2003] Tehran University of Medical Sciences, Medical Physics Department. Tehran, Iran

MSc degree of Medical Physics

[Sep 1996 - Sep 2000] Iran University of Science and Technology, Physics Department. Tehran, Iran

BSc degree of Applied Physics

Position

- ❖ Associated Professor at Shahid Beheshti University of Medical Sciences
- ❖ Chief Physicist in Emam Hossein Hospital
- ❖ Board member in Medical Physics (Health Ministry)

Research interest

- Radiation Therapy Dosimetry
- Advance Technique in Radiotherapy
- Image Implementation in Radiation Therapy
- Risk Assessment and Analysis
- Monte Carlo Simulation
- AI and Deep Learning

Languages

English – C2

Conference papers

- 3rd International WONUC Conference, October 21-23,2003, Shahid Beheshti University, Tehran, Iran.

Application of MCNP4C Monte Carlo Code in Radiation Dosimetry in Heterogeneous Phantom

Mostaar A., Allahverdi M., Shahriari M.

- 6th Iranian Congress of Medical Physics , May 11-13, 2004, Mashhad

Evaluation of MCNP Monte Carlo code in radiotherapy dose calculation

Mostaar A., Allahverdi M., Shahriari M.

- ESTRO Congress, Amsterdam, Nether land, 24-28 October 2004

Application of MCNP4C Monte Carlo Code in Radiation Dosimetry

Allahverdi M., Mostaar A., Shahriari M.

- Human, life and Radiation Conference, Rafsanjan University of Medical Sciences & Health Services, 29-31 October 2006

The Study of Mean Glandular Dose in Mammography in Yazd and the Factors Affecting It

Bouzarjomehri F., Mostaar A., Ghasemi A., Ehramposh M.H., Khosravi H

- 8th Iranian Congress of Medical Physics, May 28-29,2008/Tehran

Effect of depth, energy and field size on block transmission factor

A Mostaar, S R Mahdavi.

- World Congress on Medical Physics and Biomedical engineering IFMBE Proceedings 25/III, September 7-12, 2009, Munich, Germany

Characterization of a Radiochromic Solid Polymer Dosimeter According to its'Composition.

A Mostaar, B Hashemi, M H Zahmatkesh, S M R Aghamiri and S R Mahdavi.

- 9th Iranian Congress of Medical Physics, Iran University of Medical Sciences, 2010/Tehran

Evaluation of radiochromic solid polymer dosimeter "PRESAGE" in radiotherapy application.

A Mostaar, B Hashemi, M H Zahmatkesh, S M R Aghamiri and S R Mahdavi

- Hoshyari M, Mostaar A, Jafari A .Investigation of esophagus radiation dose from breast cancer radiotherapy. 6th BCRC Breast Cancer Congress- Abstract Book, 15-17 Aban 1392. P389
- Baghani H-R, Robotjazi M, Mahdavi R, Aghamiri M-R, Mostaar A. Development and Performance Evaluation of a Film Dosimetry System Based on EBT2 Radiochromic Film for Breast Intraoperative Radiotherapy Verification. 6th BCRC Breast Cancer Congress- Abstract Book, 15-17 Aban 1392. P384

Conference paper (continue)

- 12th Congress of Iranian Medical Physics, Shahid Beheshti University of Medical Sciences, 2018, (11 presentation)

M Shiri, A Mostaar, Z Mansouri, SM Sadat-Shahabi. Designing and developing an in-house CCD based optical CT scanner for gel dosimetry. Iranian Journal of Medical Physics, 2018, 15, 6-6.

V Nazari, SR Mahdavi, A Mostaar, H Nedaei, M Shirazi, M Amin. Camera based EPID dosimetric verification of radiation treatments. Iranian Journal of Medical Physics. 2018, 15, 217-217.

Z Sattari, A Mostaar, M Houshyari. Investigation of dosimetric characteristic of NIPAM polymer gel using x-ray CT. Iranian Journal of Medical Physics, 2018, 15, 280-280

T Hoseinkhani, A Mostaar, A Asgharzadeh Alvar. Investigation of Freedom-Degrees impact on Modulation of Radiation. Iranian Journal of Medical Physics, 2018, 15, 287-287.

G Sadrieh Khajoo, MA Ostadrahimi, A Mostaar, M Salehi Barough. Calculation the phantom scatter factor for the linear accelerators device. Iranian Journal of Medical Physics, 2018, 15, 277-277.

MA Ostadrahimi, G Sadrieh Khajoo, A Mostaar, M Salehi Barough. Calculation of air gaps between bolus and skin on the dose received from the skin. Iranian Journal of Medical Physics, 2018, 15, 276-276.

S Amiri, A Mostaar, M Houshyari. Small field size dose-profile measurements using MAGIC-f polymer gel dosimeter and EBT3 film dosimeter. Iranian Journal of Medical Physics, 2018, 15, 274-274.

J Rezapour, R Paydar, A Mostaar. Breast dose in conventional and digital mamography. Iranian Journal of Medical Physics, 2018, 15, 414-414.

SA Rohani, G Graily, SR Mahdavi, A Mostaar. Beam characteristic of PE collimators Add-on multileaf collimator. Iranian Journal of Medical Physics, 2018, 15, 470-470.

N Yousefi Moteghaed, A Mostaar. Pseudo-CT Generation from Magnetic Resonance Imaging by fuzzy look up table algorithm. Iranian Journal of Medical Physics, 2018, 15, 427-427.

A Zanghaei, A Mostaar, S Naseri, H Motahhari, M Ghorbani. Designing Optimal Bias Voltage for Radiotherapy Diamond Dosimeter. Iranian Journal of Medical Physics, 2019, 15, 330-330.

Publications

Mostaar A., Allahverdi M., Shahriari M., Application of MCNP4C Monte Carlo code in radiation dosimetry in heterogeneous phantom. Iran. J. Radiat. Res., 2003; 1(3):141-149.

Bouzarjomehri F., Mostaar A., Ghasemi A., Ehramposh M.H., Khosravi H. The Study of Mean Glandular Dose in Mammography in Yazd and the Factors Affecting It. Iran. J. Radiol., Autumn 2006, 4(1):29-35.

A Mostaar, B Hashemi, M H Zahmatkesh, S M R Aghamiri and S R Mahdavi. A basic dosimetric study of PRESAGE: the effect of different amounts of fabricating components on the sensitivity and stability of the dosimeter. *Phys. Med. Biol.* **55** (2010) 903–912

A Mostaar, B Hashemi, M H Zahmatkesh, S M R Aghamiri and S R Mahdavi. Development and characterization of a novel PRESAGE formulation for radiotherapy applications. *Applied Radiation and Isotopes* **69** (2011) 1540–1545

Mahdavi SR, Rezaeejam H, Shirazi A, Hosntalab M, Mostaar A, Motamedi M. Conformal fields in prostate radiotherapy: A comparison between measurement, calculation and simulation. *Journal of Cancer Research and Therapeutics* **8** (2012) 34-39

F. Moradi, S.R. Mahdavi, A. Mostaar, M. Motamedi. Commissioning and initial acceptance tests for a commercial convolution dose calculation algorithm for radiotherapy treatment planning in comparison with Monte Carlo simulation and measurement. *Journal of Cancer Research and Therapeutics. Journal of Medical Physics*, Vol. 37 (2012), No. 3, 145-50

S.R.M. Mahdavi, M. Mahdavi, H. Alijanzadeh, M. Zabihzadeh, A. Mostaar. A Comparison of dosimetric parameters between IAEA TRS-398, AAPM TG-51 protocols and Monte-Carlo simulation. *Iran. J. Radiat. Res.*, 2012; 43-51

Bitra Mehravi, Mohsen Ahmadi, Massoud Amanlou, Ahmad Mostaar, Mehdi Shafiee Ardestani, Negar Ghalandarlaki. Cellular uptake and imaging studies of glycosylated silica nanoprobe (GSN) in human colon adenocarcinoma (HT 29 cell line). *International Journal of Nanomedicine* 2013:8, 3209–3216

Bitra Mehravi, Mohsen Ahmadi, Massoud Amanlou, Ahmad Mostaar, Mehdi Shafiee Ardestani, Negar Ghalandarlaki. Conjugation of glucosamine with Gd³⁺-based nanoporous silica using a heterobifunctional ANB-NOS crosslinker for imaging of cancer cells. *International Journal of Nanomedicine* 2013:8, 3383–3394

Gh. Geraily, M. Mirzapour, S.R. Mahdavi, M. Allahverdi, A. Mostaar, M. Masoudifar. Monte Carlo study on beam hardening effect of physical wedges. *International Journal of Radiation Research*, 2014:12, No 3, 249-256

Ali Neshasteh-Riz, Rozhin Rahdani, Ahmad Mostaar, Evaluation of the effect of hyperthermia and cobalt-60 gamma rays with radiosensitizer IUdR in cultured Glioblastoma spheroid cells and dosimetry by TLD-100. *CELL JOURNAL*. Vol 16, No 3, Autumn 2014, 335-342.

Mohammad Houshyari, Anya Jafari, Ahmad Mostaar, Incidence of Seminoma Cancer in Staffs that Worked in Electromagnetic Waves Station; Three Cases Report. *Iranian Journal of Cancer Prevention*, 2015, Vol 8, No 1, 66-68.

Ahmad Mostaar, Meghdad Ashtiyani, Saeedeh Navaei Lavasany An Improved Ant colony Algorithm Optimization for Automated MRI Segmentation Using Probabilistic Atlas, *International Journal of Innovative Research in Science & Engineering*, 2015, Vol 3, No. 12, 399-406.

Samideh Khoei, Mohsen Shoja, Ahmad Mostaar and Fariborz Faeghi, Effects of resveratrol and methoxyamine on the radiosensitivity of iododeoxyuridine in U87MG glioblastoma cell line, *Experimental Biology and Medicine*, 2016; 0: 1–8.

Asiyeh Golestani, Mohammad Houshyari, Ahmad Mostaar and Ali Jabbari Arfaie, Evaluation of Dose Calculation Algorithms of Isogray Treatment Planning System Using Measurement in Heterogeneous Phantom. *Rep Radiother Oncol*. 2015; 2(3):e5320.

Ahmad Mostaar, Mohammad Houshyari, Saeedeh Badiyan, A Novel Active Contour Model for MRI Brain Segmentation for Radiotherapy Treatment Planning. *Electronic Physician Journal*. May 2016, Volume: 8, Issue: 5, Pages: 2443-2451

Zahra Rahimzade Yekta, Seied Rabi Mehdi Mahdavi, Hamid Reza Baghani, Mostafa Robotjazi, Ahmad Mostaar, Hamidreza Mirzaie, Dariush Sardari, Mohammad Esmaeil Akbari, Nahid Nafisi. In vivo dosimetry using radiochromic films (EBT-2) during intraoperative radiotherapy. *Journal of Radiotherapy in Practice* (2016) 15, 378–384

Shirin Hajeb Mohammad Alipour, Ahmad Mostaar, A Novel Algorithm for PET and MRI Fusion Based on Digital Curvelet Transform via Extracting Lesions on Both Images. *Electronic Physician Journal*. 2017, 9 (7), 4872.

Seied Rabie Mahdavi, Ghazale Geraily, Ahmad Mostaar, Arman Zia, Golbarg Esmaili, Somayeh Farahani. Dosimetric characteristic of physical wedge versus enhanced dynamic wedge based on Monte Carlo simulations. *Journal of Cancer Research and Therapeutics - Volume 13 - Issue 2 - April-June 2017*: 313-317.

Vahideh Nazari, Seied R Mahdavi, Ahmad Mostaar, Hassan Nedaei, Mohammad A Mosleh Shirazi, Alireza Nikoofar, Golbarg Esmailie. Multi-parametric Improvements in the CCD Camera-based EPID for Portal Dosimetry. *Journal of Medical Signals & Sensors*. Volume 7, Issue 1, January-March 2017, 21-25.

Samideh Khoei, Roghayeh Poorabdollahi, Ahmad Mostaar, Fariborz Faeghi. Methoxyamine Enhances 5-Fluorouracil-Induced Radiosensitization in Colon Cancer Cell Line HT29. *CELL JOURNAL(Yakhteh)*, Vol 19, No 2, Jul-Sep (Summer) 2017, 283-291.

Navaei Lavasani S, Mostaar A, Ashtiyani M. Automatic Prostate Cancer Segmentation Using Kinetic Analysis in Dynamic Contrast-Enhanced MRI. *Journal of biomedical physics & engineering*, 2018, 8 (1), 107.

MR Pahlavani, A Mostaar, J Nadali-Varkani. Configuration of gamma detectors in a neutron interrogation system for detection of explosives. *Applied Radiation and Isotopes*, 2018, 132, 18-23.

J Rezapour, R Paydar, A Mostaar, A Yaghoobi Joubari. Comparison of breast absorbed dose in conventional and digital mammography machines in really used condition in Tabriz . *Research in Medicine*, 2018, 42 (1), 40-45.

M Mozaffarilegha, AY Joybari, A Mostaar. Medical Image Fusion using BEMD and an Efficient Fusion Scheme. *Journal of Biomedical Physics and Engineering*, 2018.

SA Rohani, SR Mahdavi, A Mostaar, S Ueltzhöffer, R Mohammadi, Gh Geraily. Physical and Dosimetric Aspect of Euromechanics Add-on Multileaf Collimator on Varian Clinac 2100 C/D. *Journal of biomedical physics & engineering*, 2019, 9 (1), 29.

Niloofer Yousefi Moteghaed, Ali Yaghoobi Joybari, Ahmad Mostaar. Pseudo-CT Generation for External Radiotherapy Planning from Magnetic Resonance Imaging Data on Brain Regions. *Iranian Journal of Radiology*, 2019, 16 (3).

A Mostaar, MR Sattari, S Hosseini, MR Deevband. Use of Artificial Neural Networks and PCA to Predict Results of Infertility Treatment in the ICSI Method. *Journal of Biomedical Physics & Engineering*, 2019, 9 (6), 679.

N Yousefi Moteghaed, M Tabatabaeefar, A Mostaar. Biomedical Image Denoising Based on Hybrid Optimization Algorithm and Sequential Filters. Journal of Biomedical Physics & Engineering, 2020, 10 (1), 83.

NY Moteghaed, A Mostaar, K Maghooli, M Houshyari, A Ameri. Estimation and evaluation of pseudo-CT images using linear regression models and texture feature extraction from MRI images in the brain region to design external radiotherapy. Reports of Practical Oncology & Radiotherapy. 2020; 25 (5), 738-745

M Mozaffarilegha, A Yaghobi Joybari, A Mostaar. Medical Image Fusion using bi-dimensional empirical mode decomposition (BEMD) and an Efficient Fusion Scheme. Journal of Biomedical Physics & Engineering. 2020; 10 (6): 727

SA Rohani, SR Mahdavi, A Mostaar, S Rahimi, R Mohammadi, G Geraily. Commissioning and quality assurance of Euromechanics add-on multileaf collimator. Biomedical Physics & Engineering Express. 2020; 7 (1): 015019

SR Mahdavi, A Mahmoudi, G Geraily, A Mostaar, G Esmaili. Comparison of dosimetric characteristics of physical wedge and enhanced dynamic wedge in inhomogeneous medium using Monte Carlo simulations. Reports of Practical Oncology and Radiotherapy. 2021

H Zamanian, A Mostaar, P Azadeh, M Ahmadi. Implementation of Combinational Deep Learning Algorithm for Non-alcoholic Fatty Liver Classification in Ultrasound Images. Journal of Biomedical Physics & Engineering. 2021; 11 (1), 73