

Mohammad Mehrpouyan

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PERSONAL INFORMATION

Name: Mohammad

Surname: Mehrpouyan

Date of Birth: 10 February 1983, Neyshabour, Iran

Marriage status: Married

EDUCATIONAL BACKGROUND

M.Sc. in Medical Physics (2009 - 2012)

Mashhad University of Medical Sciences, Mashhad, Iran

B.Sc. in Solid state Physics (2002 - 2007)

Birjand University, Department of Physics, Birjand, Iran

Ferdowsi University, Department of Physics, Mashhad, Iran

M.Sc. THESIS TITLE

An evaluation of occupational doses to cardiologists arising from cardiac angiography procedures based on utilization of DAP (Dose Area Product)

(Supervisor: Professor Mohammad Taghi Bahreyni Toossi)

MOST IMPORTANT POSTS HELD

1. Voluntary researcher in Medical Physics Research Center, Mashhad University of Medical Sciences, Mashhad, Iran. 2011- Continued.
2. University Health physics Officer, Vaseie Hospital, Sabzevar University of Medical Sciences, Sabzevar, Iran. 2012- Continued.
3. Physicist and Medical Physicist, Radiation & Oncology Center, Sabzevar University of Medical Sciences, Sabzevar, Iran. 2012- Continued.
4. Academic Member of Radiology & Radiotherapy Department, Faculty of Medicine, Sabzevar University of Medical Sciences. 2012- Continued.
5. Physics Teacher, Gaj scientific institute, Mashhad, Iran. 2009-2012

RESEARCH ACTIVITIES

1. A Monte Carlo study on Dose Enhancement by Gd Nanoparticles in HDR brachytherapy (Research Project, completed)
2. Monte Carlo modeling of electron mode in Siemens Primus medical linear accelerator (Research Project, completed)
3. An evaluation of occupational doses to cardiologists arising from cardiac angiography procedures based on utilization of DAP (My M.Sc. project, completed)
4. Critical organ dose arising from imaging of paranasal sinus by conventional CT and Cone Beam CT (Research Project, completed)
5. Evaluation of occupational radiation exposure of cardiologists in interventional radiographies in Mashhad CATHLABs (Research Project, completed)
6. The effect of Fukushima accident on the environmental Gamma radiation levels in Mashhad-Iran (Research Project, completed)
7. Assessment of thermoplastic immobilization casts effects on the skin dose in radiation therapy (Research Project, in progress)
8. A Monte Carlo study to assess dose enhancement effect of Gold Nano Particles and photon contamination of Siemens-Primus linac (Research Project, completed)
9. Estimation of the sensitive organ doses in patient and staff head arising from Cardiac Angiography procedures based on measured DAP values (M.Sc. thesis, Completed)
10. Estimation of Maximum Patient Skin Doses (MSD) arising from cardiac angiography procedures based on measured DAP values (M.Sc. thesis, Completed)

CONFERENCE PARTICIPATION

1. “Preliminary results of an attempt to predict over apron dose of cardiologist from cardiac fluoroscopy procedures based on DAP values”

*M. T. Bahreyni Toossi, **M. Mehrpouyan**, H. Nademi, R. Fardid, G. Tabatabaei*

International Conference on Radiation protection in Medicine: Setting the Scene for the Next Decade, Germany, Bonn 3th to 7th December 2012

2. “A Monte Carlo study on tissue dose enhancement in high dose rate brachytherapy: a comparison between gadolinium and gold nanoparticles”

*M. T. Bahreyni Toossi, M. Ghorbani, **M. Mehrpouyan**, F. Akbari, L. Sobhkhiz Sabet A. Soleimani Meigooni*

World Congress of Medical Physics and Biomedical Engineering, China, Beijing 26th to 31th May 2012. (Oral presentation)

3. “Correlation between radiation dose of interventional cardiologists with Dose Area Product”

***M. Mehrpouyan**, M. T. Bahreyni Toossi, R. Fardid, H. Nademi*

International Conference on Medical Physics and Engineering, Poznan, Poland 21th to 24th September 2011. (Oral presentation)

4. “Application of Electronic Personal Dosimeters to estimate radiation dose of interventional cardiologists”

*R. Fardid, M. T. Bahreyni Toossi, **M. Mehrpouyan***

1st MEFOMP International Conference of Medical Physics, Iran, Shiraz 26th to 28th October 2011. (Oral presentation)

5. “Preliminary results of an attempt to predict over apron dose of cardiologist from cardiac fluoroscopy procedures based on DAP values”

*M. T. Bahreyni Toossi, **M. Mehrpouyan**, H. Nademi, R. Fardid, G. Tabatabaei*

Mashhad University of Medical Sciences Post graduate student’s Conference, Iran, Mashhad December 2012. (Oral presentation)

6. “The effect of Fukushima accident on the environmental gamma radiation levels in Mashhad-Iran”

***M. Mehrpouyan**, M. T. Bahreyni Toossi, L. Sobhkhiz Sabet, G. Tabatabaie*

Iranian Radiation Protection Society, Iran, Tehran, Shریف University 9th October 2011. (Oral presentation)

7. “The effect of Fukushima accident on the environmental gamma radiation levels in Mashhad-Iran”

***M. Mehrpouyan**, M. T. Bahreyni Toossi, L. Sobhkhiz Sabet, G. Tabatabaie*

PUBLICATIONS

1. “A Monte Carlo study on tissue dose enhancement in high dose rate brachytherapy: a comparison between gadolinium and gold nanoparticles”
(Australian Physical & Engineering Sciences in Medicine, APESM, Accepted: 21 May 2012,
Published: 15 June 2012)
*Mohammad Taghi Bahreyni Toossi, Mahdi Ghorbani, **Mohammad Mehrpouyan**, Fateme Akbari,
Leila Sobhkhiz Sabet, Ali Soleimani Meigooni*
2. “Monte Carlo modeling of electron modes of a Siemens-Primus linac (8, 12 and 14 MeV)”
(Journal of Radiotherapy in Practice, Accepted: 23 October 2012, Published online: 01 May 2013)
*Mohammad Taghi Bahreyni Toossi, Mahdi Ghorbani, Fateme Akbari, Leila Sobhkhiz Sabet,
Mohammad Mehrpouyan*
3. “Evaluation of Occupational Radiation Exposure of Cardiologists in Interventional Radiographies in Mashhad CATHLABs”
(International Journal of Low Radiation, Accepted: 14 February 2013, Published in Vol.9, No.2,
pp. 160 -168)
*Mohammad Taghi Bahreyni Toossi, Reza Fardid, **Mohammad Mehrpouyan**, Mehdi Ghorbani*
4. “A new method for evaluation of occupational doses to cardiologists arising from cardiac angiography procedures based on DAP utilization”
(Catheterization and Cardiovascular Interventions, under review)
*Mohammad Taghi Bahreyni Toossi, **Mohammad Mehrpouyan***, Hoseyn Nademi, Reza Fardid*
5. “A Monte Carlo study on tissue dose enhancement in high dose rate brachytherapy: a comparison between gadolinium and gold nanoparticles”
(Accepted in WC 2012 IFMBE preceding, Springer vol 39, 65-69)
*Mohammad Taghi Bahreyni Toossi, Mahdi Ghorbani, **Mohammad Mehrpouyan**, Fateme Akbari, Leila Sobhkhiz Sabet, Ali Soleimani Meigooni*
6. “Preliminary results of an attempt to predict over apron dose of cardiologist from cardiac fluoroscopy procedures based on DAP values”
(Accepted in International Conference on Radiation protection in Medicine: Setting the Scene for the Next Decade. IAEA preceding, 2012)
*Mohammad Taghi Bahreyni Toossi, **Mohammad Mehrpouyan***, Hoseyn Nademi, Reza Fardid, Golsa Tabatabaei*
7. “A Monte Carlo study to assess dose enhancement effect of Gold Nano Particles and photon contamination of Siemens-Primus linac”
(In preparation)

*Mohammad Taghi Bahreyni Toossi, Mahdi Ghorbani, **Mohammad Mehrpouyan**, Fateme Akbari, Leila Sobhkhiz Sabet*

8. “Critical organ dose arising from imaging of paranasal sinus by conventional CT and Cone Beam CT”

(In preparation)

*Mohammad Taghi Bahreyni Toossi, Fateme Akbari, Hoseyn Hoseyni Zarch, **Mohammad Mehrpouyan***

TEACHING EXPERIENCES

- Medical Physics for students of Medicine
- Practical Physics for Students of Health Professionals
- Practical & Theoretical Physics for Students of Medicine
- Fundamental Physics of Clinical Instruments for Students of Medical Laboratory Sciences
- Radiotherapy & Radiation Protection for Radiology staffs of all Sabzevar University of Medical Sciences Hospitals.

WORKSHOPS

1. International workshop on advances in Radiotherapy Physics & Technology
Shiraz- Iran. 1st November 2011
2. Ionizing radiation, sources, detection and biological effect
Medical Physics Research Center. Mashhad- Iran. 6th - 7th June 2011
3. Workshop on advances dosimetry in radiation therapy
Mashhad- Iran. 24th November 2011
4. Workshop on Monte Carlo Simulation, MCNP Code
Mashhad- Iran. 2011
5. Workshop on Dosimetry, Verification and Quality Control Methods in Radiotherapy and Diagnostic Radiology
PTW Company. Freiburg- Germany. 27th - 28th March 2013
6. International Workshop on PET/CT and PET/MR Imaging
University Hospital Eberhard-Karls-University Tubingen. Tubingen- Germany.

8th - 12th April 2013

EXPERIENCE

Training in Radiotherapy Techniques and Components

- 1th February- 30th April 2013. University Hospital for Radiation Oncology, University of Tubingen. Tubingen- Germany.
- 20th February- 20th May 2012. Reza Radiation Oncology Center. Mashhad- Iran.
- 1th June- 30th July 2012. Omid Radiation Oncology Hospital, Mashhad University of Medical Sciences. Mashhad- Iran.

Professional Skills

- Being competent Monte Carlo simulation using MCNP4C and MCNPX code.
- Having Experience in working with Dosimetry, Verification and Quality Control equipment's in Radiotherapy.
- Having Experience in working with Medical Dosimetry and Environmental Dosimetry equipment's.

Computer Skills

- 3D Treatment planning system, Oncentra Masterplan Treatment Planning in University Hospital for Radiation Oncology, University of Tubingen.
- 3D Treatment planning system, RTDOSE Treatment Planning in Reza Radiation Oncology Center.
- 2D Treatment planning system, Alphard Treatment Planning in Omid Radiation Oncology Hospital, Mashhad University of Medical Sciences.
- Having Experience in working with Radiotherapy Dosimetry, Verification and Quality Control softwares.
- MATLAB (preliminary level)
- Fortran
- SPSS
- Data Fit
- Microsoft office (Word- Power point- Excel- Access), Photoshop
- Reference manager & Endnote

FIELDS OF INTERESTS

Radiotherapy, Radiation Protection, Monte Carlo Simulation and Medical Imaging

HOBBIES

Rock climbing, Mountain climbing, Jogging & Paint ball

REFERENCES

Professor Mohammad Taghi Bahreyni Toossi, Professor of medical physics and head of medical physics Department, Medical Physics Research center, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad-Iran. (bahreynimt@mums.ac.ir)

Professor Mohammad Houseyn Bahreyni Toossi, Professor of medical physics, medical physics Department, Medical Physics Research center, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad-Iran. (bahreynimh@mums.ac.ir)

Doctor Daniela Thorwarth, Ph.D. of medical physics and head, Section Biomedical Physics University Hospital for Radiation Oncology Tubingen, Tubingen University, Tubingen-Germany. (DanielaThorwarth@med.uni-tuebingen.de)