



Curriculum Vitae

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Name: Ali Asghar

Surname: Parach

Date and place of Birth: 21/September/1981

Marital status: Married

Affiliation:

Assistant of Medical Physics, Department of Medical Physics, Faculty of
Medical Sciences, Shahid Sadoughi University of medical sciences, Yazd, Iran

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University Education:

PhD: Medical Physics, Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran (2012)

MSc: Medical Physics, Department of Medical Physics, Faculty of Medical Sciences, Iran University of Medical Sciences, Tehran, Iran (2003-2006)

BSc: Nuclear Physics, Department of Physics, Faculty of Basic Sciences, Guilan University, Rasht, Iran (1999-2003)

Master Thesis:

- ✓ Evaluation of cytogenetic damages produced by gamma emitted from ^{60}Co with and without Iudr on multicellular glioma spheroids by Comet assay

PhD Thesis:

- ✓ Development of dose point kernel for calculation of internal dose from ^{177}Lu in heterogeneous phantom (NCAT) using nonstationary convolution method in comparison with Monte Carlo (GATE)

Awards:

- ✓ The prize for the best poster in the 1st research festival of Radiological Sciences Students, Shiraz, Iran (2010).
- ✓ The Candidate for the best presenter in International congress of nuclear medicine & 14th Iranian Annual Congress of Nuclear Medicine, Mashhad, Iran (2010).

Teaching Experiences:

A: nuclear medicine and dosimetry:

- ✓ Principles of internal dosimetry in nuclear medicine for PhD and MSc of medical physics students, Tarbiat Modares University
- ✓ Medical Physics, MSc Students, Shahid Sadoughi University.

B: Radiation Physics, Fundamental Physics, Physics of Diagnostic Radiology, Physics of CT, Physics of MRI

- ✓ Radiology students, Shahid Sadoughi University.

C: Biophysics, Fundamental physics

- ✓ Laboratory and public health students, Shahid Sadoughi University.
- ✓ Physiology, MSc Students, Shahid Sadoughi University.

D: Medical Physics

- ✓ Pharmacology students, Shahid Sadoughi University.

E: Nuclear Physics:

- ✓ Preparation for medical physics for MSc exam, Anvare Danesh scientific & educational institute, Tehran. 2008
- ✓ Medical Physics, MSc students, Shahid Sadoughi University.

F: Basic Physics:

- ✓ Preparation for occupational health for MSc exam, scientific institute of Sina Teb, 2006, Tehran, Iran

Professional Membership:

- ✓ Member of Iranian Association of radiologic sciences
- ✓ Member of Iranian Association of Medical Physics

Research field of Interest:

- ✓ Patient specific dosimetry in Nuclear Medicine
- ✓ Quantitative imaging for internal dosimetry
- ✓ Use of Monte Carlo techniques for dosimetry and imaging in Nuclear Medicine and Radiation Therapy
- ✓ Constructing a variety of digital human phantoms for dosimetry and imaging purposes in Nuclear Medicine
- ✓ Evaluation of radiation induced effects on living cells
- ✓ Assessment of cytogenetic effect of radiation in Medical imaging staff and patients
- ✓ Eye modeling with Zemax or other softwares
- ✓ MATLAB programming.

Ongoing research:

- ✓ Development of patient specific dosimetry in nuclear medicine
- ✓ Monte Carlo dosimetry calculations of radionuclide used in nuclear medicine for humans in variety of ages and genders
- ✓ Digital phantom preparation for nuclear medicine dosimetry applications
- ✓ Assessment of MIRD Method for internal dosimetry
- ✓ Assessment the effect of Intra Operative Lens decentration on patient vision by human eye model

Computer Skills

- ✓ Operating System: Windows, Linux, Dos
- ✓ Programming: MATLAB, C++, Visual Basic

Software:

- ✓ MCNP , GATE, SimSet , Zemax
- ✓ Virtual Machines
- ✓ Amide, MATLAB (Image Processing, Programming, Data and Curve Fitting Tools, Gui, ...), XMedcon, ROOT Analysis
- ✓ ENDNOTE, Statistical analysis softwares (SPSS, Excel)
- ✓ M.S. Office, Origin, XLSTAT, LABFIT, TableCurve2D&3D

Workshops:

- ✓ QC in Medical Imaging, IAMP, 2005, Shahid Beheshti University, Tehran, Iran
- ✓ Dosimetry workshop, Iranian organization of atomic energy, 2005, agriculture and nuclear medicine research center, Karaj, Iran
- ✓ CT and PET principles and applications, GE Co. & Iran University of Medical Sciences, Tehran, Iran
- ✓ MCNP workshop, Damghan university, 2010, Damghan, Iran
- ✓ Workshop on proposal writing and preparation, 2009, Iran University of Medical Sciences, Tehran, Iran

Presentation at Meetings:

I: International

1. **AA. Parach**, M. Barouni, M. Vanaei. (2005) *Crisis management for reducing the effects of nuclear disaster on human health*, 2nd Int. congress on health medications and crisis management in disaster
2. Neshasteh-Riz A., **Parach A.A.**, Khoei S. (2008) *Evaluation of Iudr radiosensitization in multicellular glioma spheroids using comet assay*. 18th ICMP. 111. Dubai
3. **Ali Asghar Parach**, Hossein Rajabi, Mohammad Ali Askari, Mohammad Ali Tajik-Mansoury. (2010) *Assessment of MIRD data for internal dosimetry using the GATE Monte Carlo code*. International congress of nuclear medicine & 14th Iranian Annual Congress of Nuclear Medicine, Mashhad, Iran.
4. **Ali Asghar Parach**, Hossein Rajabi, Mohammad Ali Tajik-Mansoury and Hadi Taleshi Ahangari. (2010) *Comparison of GATE and MCNP Monte Carlo codes for internal dosimetry*. International congress of nuclear medicine & 14th Iranian Annual Congress of Nuclear Medicine, Mashhad, Iran.
5. Mohammad Ali Tajik-Mansoury, Hossein Rajabi, Ali Reza Emami-Ardakani, **Ali Asghar Parach**, (2010) *Assessment of the effect of wavelet transform in precision of motion detection for renal dynamic scintigraphy: simulation study*. International congress of nuclear medicine & 14th Iranian Annual Congress of Nuclear Medicine, Mashhad, Iran.

6. Abdolazade M., Moshayedi A, Yousefnia H, Kasesaz Y, **Parach A**, Shayeste M (2011) *Calculation of absorbed Doses in human Body Produced by PET Machine Using MCNP Code*, The 1st MEFOMP International Conference of Medical Physics, Shiraz, Iran
7. **Parach AA**, Rajabi H, Asgari A, Salehi Zahabi S, (2011) *Validation of the GATE Monte Carlo Code for Internal radiation Dosimetry by Using the MCNP Data*, The 1st MEFOMP International Conference of Medical Physics, Shiraz, Iran
8. Asgari A, **Parach AA**, Iranpoor M, (2011); *CT Dose Index in abdominal-Pelvic MultiSlice CT with automatic exposure Control*; The 1st MEFOMP International Conference of Medical Physics, Shiraz, Iran
9. Asgari A, **Parach AA**; (2011), *Introduce the radioembolisation, an effective and novel Therapy for Treatment of hepatocellular Carcinoma*, The 1st MEFOMP International Conference of Medical Physics, Shiraz, Iran
10. **Ali Asghar Parach**, Hossein Rajabi, Mohammad Ali Askari, (2011), *Paired organ internal dosimetry; should be treated jointly or separately?* 3rd International Congress of Nuclear Medicine & 15th Iranian Annual Congress of Nuclear Medicine, Tehran, Iran
11. **Ali Asghar Parach**, Hossein Rajabi , Azam Asgari (May 2013) *Patient Specific Dosimetry by Dose Point Kernel of Radionuclides Used in Nuclear Medicine with GATE*, 5th International and 17th Iranian Congress of Nuclear Medicine, Shiraz, Iran
12. Maryam Fallahpoor, Mohammad Reza Abdi, Mehrshad Abbaasi, Faraz Kalantari, **Ali Asghar Parach** (May 2013) *Internal Dosimetry in Nuclear Medicine Using Gate and XCAT Phantom: a Simulation Study*. 5th International and 17th Iranian Congress of Nuclear Medicine, Shiraz, Iran
13. **Ali Asghar Parach**, Hossein Rajabi , Azam Asgari (May 2013) *Calculation of ¹⁷⁷Lu Dose Point Kernels in Different Media with GATE*. 5th International and 17th Iranian Congress of Nuclear Medicine, Shiraz, Iran

II: Local:

1. Neshasteh-Riz A., **Parach A.A.**, Khoei S. (2008) *Evaluation of Iudr radiosensitization in multicellular glioma spheroids by comet assay*. Radiation protection in Nuclear Medicine, 2007, Shahid Beheshti University, Tehran-Iran
2. **Ali Asghar Parach**, Hossein Rajabi, Azam Asgari, (2010) *Evaluation of paired organs effect on tissue absorbed fractions in realistic human phantom with GATE Monte Carlo code*. 1st research festival of Radiological Sciences Students, Shiraz, Iran.
3. Sharafi AA, Asgari A, **Parach AA**. (2010) *Evaluation of Absorbed dose for Thyroids, Parathyroids and Eye lenses in Patients under head and neck CT Scan by Thermoluminescent Dosimetry (TLD)*, 1st research festival of Radiological Sciences Students, Shiraz, Iran.
4. Sharafi AA, Asgari A, **Parach AA**. (2010) *Evaluation of Absorbed dose for Thyroids, Heart and Lungs in Patients under Coronary Angiography with Thermoluminescent Dosimetry (TLD)*, 1st research festival of Radiological Sciences Students, Shiraz, Iran.
5. Azam Asgari, **Ali Asghar Parach**, (2010) *The Basic Principle of Flowcytometry systems for measuring the Cell sizes*; 8th Iranian Congress of Radiologic Sciences; Tehran;Iran
6. Azam Asgari, Keykhosro Keshavarzi, **Ali Asghar Parach**, (January 2013) *Liou-Brennan's schematic eye: is optically and physically more similar to the biological eye?* The 19th Iranian Conference on Optics and Photonics and The 5th Iranian Conference on Photonics Engineering and Technology, Zahedan, Iran.
7. Azam Asgari, Keykhosro Keshavarzi, **Ali Asghar Parach** , *Aspheric IOLs and their applications on the corneal positive spherical aberrations*, (2012) 8th Iranian congress of eastern medical university students, Birjand, Iran.

Publications:

I: Full Papers:

1. Neshasteh-Riz A, **Parach A.A**, Khoei . S. *Evaluation of IudR radiosensitization in Multicellular Glioma spheroids by Comet assay.* [Razi Journal of Medical Sciences](#), 2007, 14(56) p:197-207
2. **A A. Parach**; H. Rajabi ; *A comparison between GATE4 results and MCNP4B published data for internal radiation dosimetry;* [Nuklearmedizin](#). (2011), 50(3):122-33
3. **Ali Asghar Parach** , Hossein Rajabi , Mohammad Ali Askari, *Assessment of MIRD data for internal dosimetry using the GATE Monte Carlo code.* [Radiat Environ Biophys](#) (2011), 50(3):441–450
4. **Ali-Asghar Parach**, Hossein Rajabi and Mohammad-Ali Askari. *Paired organs-Should they be treated jointly or separately in internal dosimetry?* [Med. Phys.](#) (2011), 38 (10), 5509-21
5. Azam Asgari, Keykhosro keshavarzi, **Ali Asghar Parach**, *The effect of IOL(Tecnis Z9000) Decentration on the optical quality of the eye using the eye modelling,* [Bina Journal](#) (in press, Accepted in 2013)
6. Azam Asgari, Keykhosro Keshavarzi, **Ali Asghar Parach**, *Application of Intra Ocular Lenses in cataract surgery and the factors influencing visual acuity after surgery,* [The Journal of Shahid Sadoughi university of Medical Sciences](#) ,2013; 21(4):533-46
7. Hamid Javadi, Ali Mahmoud Pashazadeh, Mehdi Mogharrabi, Isa Neshandar Asli, Faraj Tabei, **Ali Asghar Parach**, Majid Assadi, *Radiation exposure from diagnostic nuclear medicine examinations in Golestan province,* [Iran J Nucl Med](#) 2013;21(2):65-69
8. Azam Asgari, **Ali Asghar Parach**, Keykhosro Keshavarzi, *Evaluation of the Impact of Intraocular Lens Tecnis Z9000 Misalignment on the Visual Quality Using the Optical Eye Modeling,* [Iranian Journal of Ophthalmology](#) 2013;25(4):3-11
9. A. Asgari, **A. A. Parach**, A. A. Sharafi, B. Nazarpour, S.Parvizi, *Evaluation of dose to thyroid, parathyroid and eye in head and neck CT examinations, patient surface dose and phantom depth dose,* [International Journal of Radiation Research](#) (in press, accepted in 2014)

10. Barkhordari firouzabadi. A, Boozar jomehri F., Ghahari. M, Parach. A., Zare sakhoydi. M, Lotfi. M, *Evaluation of radon concentration in the lead and zinc mines in Yazd, 2013, [The Journal of Toloo-e- Behdasht](#)* (in press, accepted in 2014)

II: Abstract

1- Asgari A, Parach AA, *Issues For Reducing The Incidence Of Cancer in Childen Induced By CT, [Iranian Journal of Radiology](#), 2013,10(Suppl1),S64*

2- **Parach AA**, Rajabi H, Asgari A, *Validation of the GATE Monte Carlo Code for Internal Radiation Dosimetry by Using the MCNP Data, [J Biomed Phys Eng](#), 2011; 1(Suppl 1), S168*

3- Asgari A, **Parach AA**, Iranpoor M, *CT dose index in abdominal-pelvic MultiSlice CT with automatic exposure control, [J Biomed Phys Eng](#) 2011; 1(Suppl 1), P69*

4- Asgari A, **Parach AA**, *Introduce the Radioembolisation, an Effective and Novel Therapy for Treatment of Hepatocellular Carcinoma, [J Biomed Phys Eng](#) 2011; 1(Suppl 1), P60*

5- **Ali Asghar Parach**, Hossein Rajabi, Mohammad Ali Askari, Mohammad Ali Tajik-Mansoury. *Assessment of MIRD data for internal dosimetry using the GATE Monte Carlo code, [Iran J Nucl Med](#) 2010; 18:(suppl 1);P82*

6- Ali Asghar Parach, Hossein Rajabi, Mohammad Ali Tajik-Mansoury, Hadi Taleshi Ahangari, *Comparison of GATE and MCNP Monte Carlo codes for internal dosimetry. [Iran J Nucl Med](#) 2010; 18:(suppl 1);P108*

7- Mohammad Ali Tajik Mansoury, Hossein Rajabi, Ali Reza Emami-Ardakani, **Ali Asghar Parach**, *Assessment the effect of wavelet transform in precision of motion detection for renal dynamic scintigraphy: simulation study; [Iran J Nucl Med](#) 2010; 18:(suppl 1);P109*

Thesis Advisor:

MSC:

- 1- Evaluation of the effect of IntraOcular Lenses(IOLs) Misalignment for correction of spherical aberrations by using of real optical-mathematical eye modeling, 2013, **MSc Thesis, Azam Asgari**, Department of Medical Physics, *Tehran University of Medical Sciences*, Tehran, Iran
- 2- Internal Dosimetry of Samarium (EDTMP) in Metastatic Breast Cancer Patients with Simulation, 2014, **MSc Thesis, Maryam Fallahpour**, Department of Physics, *Isfahan University*, Isfahan, Iran
- 3- Evaluation of radon concentration in the lead and zinc mines in Yazd, 2013, **MSc Thesis, Mahdi Qaharee**, Department of Occupational Health, *Shahid Sadoughi University of Medical Sciences*, Yazd, Iran
- 4- Evaluation of the head and neck organs S-factors in Zubal phantom for ^{131}I , ^{90}Y , ^{188}Re , ^{186}Re , ^{177}Lu and ^{67}Cu Radionuclides and comparison with MIRD data, 2014, **MSc Thesis, Amine Rajabi**, Department of Medical Physics, *Tarbiat Modares University*, Tehran, Iran

PhD:

- 1- Optimization of 3D Patient-Specific Internal Dosimetry in Radionuclide Therapy, 2014, **PhD Thesis, Roh-allah Ghahreman Asl**, Department of Medical Physics, *Mashad University of Medical Sciences*, Mashad, Iran

Thesis Supervisor:

Invited Lectures, Seminars and Workshops:

- ✓ Microwave safety and side effects, 2004, lecture at dept. of medical physics, Iran university of medical sciences, Tehran, Iran
- ✓ The principles and application of ^{131}I for treatment of hyperthyroidism and Thyroid Cancers, Applied Physics in Nuclear Medicine,(Sep/2011) Department of Nuclear Medicine, Shariati Hospital, Tehran,Iran
- ✓ The workshop on Radiation protection in nuclear medicine and CT, (2013) for radiation workers and Physicians, Shahid Sadoughi university of Medical Sciences, Yazd, Iran
- ✓ Training sessions on Radiation Biology and Protection(2013-2014) for radiation workers, Shahid Sadoughi university of Medical Sciences, Yazd, Iran

Books:

- ✓ MRI at a glance, **AA. Parach**, A. Asgari, 2009, Noure Danesh publication, Tehran,Iran