

# Curriculum Vitae



**Reza Fardid (Ph.D),**

*Associate Professor of Medical Physics*

Birth date: Sep. 06, 1979

Birthplace: Shiraz, Iran

Citizenship: Iranian

Gender: Male

Dep.: Radiology

Faculty: School of Paramedical Sciences

University: Shiraz University of Medical Sciences

Work Address: Radiology Dep. - School of Paramedical Sciences - Shiraz University of Medical Sciences – Shiraz – Iran.

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## Academic History

**2002** - Bachelor of Science - Physics - Atomic - Laser

- Designing and Constructing Power Supply for 40mW He-Ne Laser
- Shiraz University of Sciences - Shiraz - Iran

**2005** - M.Sc. - Medical Physics - Radiobiology

- Radio-Protective Effects of Melatonin in Rat Liver Damage After TBI Gamma Irradiation
- Tehran University of medical sciences - Tehran - Iran

**2012** - PhD - Medical Physics – Radiobiology (Biodosimetry)

- Assessment of gene expression changes of P53, INF-G, TGF-B, XPA, GOS2, PF4 in peripheral blood lymphocytes of medical radiation worker
- Mashhad University of medical sciences – Mashhad - Iran

## **Applied Projects**

**2001** - Designing and Constructing Power Supply for Diode Lasers

Department of Physics -Shiraz University - Shiraz - Iran  
Authors: R. Fardid, H. Nadgaran (Ph.D) , A.R. Keshavarz

**2004** - Design and Constructing Electrostatic Precipitation Air Filtration.

Research Center for Science and Technology in Medicine - Tehran University -  
Tehran - Iran  
Authors: R. Fardid, R. Saber (Ph.D)

**2005** - Designing Power Supply for he-Ne Laser (5mW)

Research Center for Science and Technology in Medicine - Tehran University -  
Tehran -Iran  
Author: R. Fardid

**2008** - Evaluation of Radioprotection effects of Walnut in Rat

Tehran University of medical sciences - Tehran - Iran  
Authors: R. Fardid , A.R. Shirazi

**2010** - Mobile Phone Radiation exposure effects on Apoptosis Genes Expression in  
hippocampal formation of mice brain

Authors: MH Bahrayni Toosi, FZ Tohidi, R Fardid, A Sadrnabavi, and R Rezaei

**2011** - Long-Term culturing of peripheral human lymphocytes and evaluation of  
Ionizing Radiation effects on lymphocytes (In-vitro).

Mashhad University of medical sciences-Mashhad –Iran

## **Invention patents**

**2004** - Remote Control for Long Distance (more than 2 kilometers) Circuit by

Infrared Laser, National (Iranian) patent number: 28999  
Inventor: R. Fardid

**2007**- Electrostatic Precipitator with UV-C Radiation for Indoor Air Filtration,

National (Iranian) patent number: 38005  
Inventors: R. Fardid , R. Saber (Ph.D)

## Publications

1. Fardid R (2005) Radio-Protective Effects of Melatonin in Rat Liver Damage After TBI Gamma Irradiation (Thesis of M.Sc in Medical Physics): Tehran University of medical sciences - Tehran.
2. Fardid R (2005) Radioprotection agent for astronauts.
3. Shirazi AR, Fardid R, Ghobadi G (2005) Melatonin as a novel Radioprotector: - Radiobiological Review. Medical Basic Sciences Journal of Iran.
4. Fardid R (2007) Electrostatic Precipitator with UV-C Radiation for Indoor Air Filtration (patent 38005).
5. R. Fardid MTB. Application of electronic personal dosimeters to estimate radiation exposure of Interventional Cardiologists; 2010. Shiraz University of Medical Sciences - Iran.
6. Bahreyni-Toossi MT, Fardid R, Rezaee A, Sadr-nabavi A, Rafatpanah H, et al. (2011) Expression of apoptotic genes can distinguish radiation workers from normal population. International Journal of Low Radiation 8: 388-399.
7. Fardid R (2012) Assessment of gene expression changes of P53, INF-G, TGF-B, XPA, GOS2, PF4 in peripheral blood lymphocytes of medical radiation worker ( Thesis of Ph.D in Medical Physics): Mashhad University of medical sciences – Mashhad.
8. Mehrpouyan M, Bahreyni MT, Fardid R. Correlation between radiation doses of cardiologists with dose area product; 2012. Mickiewicz University, Poland.
9. Shirazi A, Fardid R, Mihandoost E (2012) Protective effect of low dose melatonin on radiation-induced damage to rat liver. Journal of Biomedical Physics and Engineering 2.
10. Fardid R, Bahreyni Toossi MT, Mehrpouyan M, Ghorbani M (2013) Evaluation of occupational radiation exposure of cardiologists in interventional radiography in Mashhad CATHLABs. International Journal of Low Radiation 9: 160-168.
11. Toossi MB, Azimian H, Rezaei A, Rafatpanah H, Hamzehloei T, et al. Low-dose irradiation alters the radio-sensitivity of human peripheral blood lymphocytes; 2013. Springer Science & Business Media. pp. 41.
12. Fardid R. Gene Expressions in Left Ventricle Heart Tissue of Rat after 150 Mev Proton Irradiation; 2014.
13. Fardid R, Bahreyni-Toossi MT, Rezaee A, Sadr-nabavi A, Rafatpanah H (2014) Expression of IFN $\gamma$  and TGF $\beta$ 1 genes can distinguish radiation workers from the normal population. International Journal of Low Radiation 9: 396-408.
14. Haddadi GH, Fardid R (2014) Oral administration of melatonin modulates the expression of tumor necrosis factor-(TNF-) gene in irradiated rat cervical spinal cord.
15. Najafi M, Fardid R, Hadadi G, Fardid M (2014) The mechanisms of radiation-induced bystander effect. Journal of biomedical physics & engineering 4: 163.
16. Azimian H, Bahreyni-Toossi MT, Rezaei AR, Rafatpanah H, Hamzehloei T, et al.

- (2015) Up-regulation of Bcl-2 expression in cultured human lymphocytes after exposure to low doses of gamma radiation. *Journal of Medical Physics/Association of Medical Physicists of India* 40: 38.
17. Fardid R. Linear regression of exposure dose with gene expression level of TGFb1 in radiation workers; 2015.
  18. Haddadi GH, Fardid R (2015) Oral administration of melatonin modulates the expression of tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) gene in irradiated rat cervical spinal cord. *Reports of Practical Oncology & Radiotherapy* 20: 123-127.
  19. Tohidi F, BAHRAYNI TM, Azimian H, Khademi S, Fardid R, et al. (2015) The gene expression level of p53 and p21 in mouse brain exposed to radiofrequency field.
  20. Toossi MTB, Mehrpouyan M, Nademi H, Fardid R (2015) Preliminary results of an attempt to predict over apron occupational exposure of cardiologists from cardiac fluoroscopy procedures based on DAP (dose area product) values. *Australasian physical & engineering sciences in medicine* 38: 83-91.
  21. Toossi MTB, Mehrpouyan M, Nademi H, Fardid R (2015) The minimal dose covering 90% of the prostate volume—D 90—is arguably the most important dosimetric parameter in low-dose-rate prostate seed brachytherapy. In this study an analysis of the measurement uncertainties in D 90 from low-dose-rate prostate seed brachytherapy was conducted for two common treatment procedures with two different post-implant dosimetry methods. The analysis. *Australasian Physical & Engineering Sciences in Medicine* 38: 119-128.
  22. Azimian H, Bahreyni Toossi M, Fardid R, Khademi S, Salari E (2016) Biological dosimetry for the identification of ionizing radiation exposure. *Journal of North Khorasan University of Medical Sciences* 7: 691-703.
  23. Fardid R. Expression of TGF-b and IFN- $\gamma$  genes on rat lymphocytes after low dose gamma whole body irradiation; 2016. [www.cbmsr.org](http://www.cbmsr.org).
  24. Fardid R, Ghorbani Z, Haddadi G, Behzad-Behbahani A, Arabsolghar R, et al. (2016) Effects of Hesperidin as a Radio-protector on Apoptosis in Rat Peripheral Blood Lymphocytes after Gamma Radiation. *Journal of biomedical physics & engineering* 6: 217.
  25. Gholamhassan Haddadi PhD HAM, Reza Fardid. PhD. The Measurement of Entrance Skin Dose (ESD) Resulting from Radiation Exposure of Patients Treated with Ablation procedure; 2016. [www.cbmsr.org](http://www.cbmsr.org).
  26. Ghorbani Zh HG, Fardid R (2016) Hesperidin as a Natural Radio-Protector. *Journal of Fasa University of Medical Sciences* 5.
  27. Najafi M, Fardid R, Takhshid MA, Mosleh-Shirazi MA, Rezaeyan A-H, et al. (2016) Radiation-induced oxidative stress at out-of-field lung tissues after pelvis irradiation in rats. *Cell Journal (Yakhteh)* 18: 340.
  28. Rezaeyan A, Fardid R, Haddadi G, Takhshid M, Hosseinzadeh M, et al. (2016) Evaluating radioprotective effect of hesperidin on acute radiation damage in the

- lung tissue of rats. *Journal of biomedical physics & engineering* 6: 165.
29. Saeedi A, Fardid R, Mohammad Javad Khoshnoud, Elaheh Kazemi, Omidi M, et al. (2016) Disturbance of zinc and glucose homeostasis by methyl tert-butyl ether (MTBE); evidence for type 2 diabetes. *Xenobiotica*.
  30. Tohidi FZ, Fardid R, Arian Rad S, Tohidi M, Bahrayni Toosi MH, et al. (2016) The Effect of Cellphone Radiation on Hematological Blood Cell Factors In BALB/C Mice. *Iranian Journal of Medical Physics* 13: 58-64.
  31. Eftekhari Z, Fardid R, Zare T. The Bystander Effects (BSE) of Ultraviolet Radiation (UVR) and Silver Nanoparticles (Ag NPs) on TK6 Cells; 2017. *Proceedings of the 2nd Nanomedicine & Nanosafety Conference | www.nanomedsafety.com*. pp. 101.
  32. Fardid R, Mirzadeh F, Rezaei H (2017) Occupational doses of cardiologists in cath labs and simulation method. *Journal of cancer research and therapeutics* 13: 901.
  33. Fardid R, Najafi M, Salajegheh A, Kazemi E, Rezaeyan A (2017) Radiation-induced non-targeted effect in vivo: Evaluation of cyclooxygenase-2 and endothelin-1 gene expression in rat heart tissues. *Journal of Cancer Research and Therapeutics* 13: 51.
  34. Fardid R, Salajegheh A, Mosleh-Shirazi MA, Sharifzadeh S, Okhovat MA, et al. (2017) Melatonin ameliorates the production of COX-2, iNOS, and the formation of 8-OHdG in non-targeted lung tissue after pelvic irradiation. *Cell Journal (Yakhteh)* 19: 324.
  35. Haddadi GH, Rezaeyan A, Mosleh-Shirazi MA, Hosseinzadeh M, Fardid R, et al. (2017) Hesperidin as radioprotector against radiation-induced lung damage in rat: A histopathological study. *Journal of medical physics* 42: 25.
  36. Zare T, Fardid R, Naderi S. Synergistic genotoxic effects of co-exposure to Ag NPs and UVC on TK6 cells using H2AX gene expression evaluation; 2017. pp. 76.
  37. Haddadi G, Sajadi S, Fardid R, Haddadi Z (2018) The Effect of Hesperidin on Troponin's Serum Level Changes as a Heart Tissue Damage Biomarker Due to Gamma Irradiation of Rat's Mediastinum. *World Academy of Science, Engineering and Technology, International Journal of Biomedical and Biological Engineering* .
  38. Zari Hamivand, Gholamhassan Haddadi, Reza Fardid (2018) Expression of Bax and Bcl2 genes in peripheral blood lymphocytes of patients with differentiated thyroid cancer, *Journal of medical physics*.
  39. M Omidi, H Niknahad, A Noorafshan, R Fardid, E Nadimi, S Naderi, (2018) Co-exposure to an Aryl Hydrocarbon Receptor Endogenous Ligand, 6-Formylindolo [3, 2-b] carbazole (FICZ), and Cadmium Induces Cardiovascular Developmental Abnormalities in Mice, *Biological trace element research*.
  40. Alieh Alipoor, R. F. (2018). Expression of phosphorylated histone H2AX in blood lymphocytes of patients undergoing angiographic procedures following exposure to X-rays. 12th Iranian Congress of Medical Physics, 19-20 July 2018, Shahid Beheshti University of Medical Sciences.

41. Alipour, A., R. Fardid and S. Sharifzadeh (2018). "Evaluating Gamma-H2AX Expression as a Biomarker of DNA Damage after X-ray in Angiography Patients." *Journal of Biomedical Physics and Engineering*.
42. Haddadi, G., S. Sajadi, R. Fardid and Z. Haddadi (2018). "The Effect of Hesperidin on Troponin's Serum Level Changes as a Heart Tissue Damage Biomarker Due to Gamma Irradiation of Rat's Mediastinum." *World Academy of Science, Engineering and Technology, International Journal of Biomedical and Biological Engineering* **5**(3).
43. Hamivand, Z., G. Haddadi and R. Fardid (2018). "Expression of Bax and Bcl2 genes in peripheral blood lymphocytes of patients with differentiated thyroid cancer." *Journal of medical physics* **43**(1): 41.
44. Tahereh zare, R. Fardid. (2018). The effect of Ag NPs co-exposure with UVC irradiation on TK6 cells viability. 12th Iranian Congress of Medical Physics, 19-20 July 2018, Shahid Beheshti University of Medical Sciences.
45. Zohreh Eftekhari Kenzerki, R. Fardid., Abbas Behzad-Behbahani (2018). The Bystander Effects of Ultraviolet Radiation and Silver Nanoparticles on the H2AX gene expression in TK6 Cells. 12th Iranian Congress of Medical Physics, 19-20 July 2018, Shahid Beheshti University of Medical Sciences.
46. Fatemeh Kargar Shouroki, Masoud Neghab, Hossein Mozdarani, Hamzeh Alipour, Saeed Yousefinejad, Reza Fardid, Genotoxicity of inhalational anesthetics and its relationship with the polymorphisms of GSTT1, GSTM1, and GSTP1 genes, *Environmental Science and Pollution Research*, 2018.

## Teaching

- 2006** - Dosimetry and Radiobiology for Microbiology B.sc students  
Kazeroun University - Kazeroun - Iran  
One Term
- 2007** - Atomic and Nuclear Physics for Medical Physics M.sc students  
University of Medical Sciences - Medical Physics Department - Mashhad - Iran  
Two Terms
- 2008** - General Physics for Environmental Health Engineering B.sc students  
University of Medical Sciences - Medical Physics Department - Mashhad - Iran  
Five Terms
- 2009** - Radiation Protection for Environmental Health Engineering M.sc students  
University of Medical Sciences - Kerman - Iran  
Four Terms
- 2011** - Gene expression by ABI Step one system Real Time PCR and its application in  
Biodosimetry  
University of Medical Sciences - Mashhad - Iran  
Lecture for M.sc students
- 2012** - Gene expression by Bio-Rad system Real Time PCR  
University Medical Center Groningen - Groningen - The Netherlands  
Lecture for M.sc and PhD students
- 2013 to now** - Radiobiology  
University of Medical Sciences - Shiraz - Iran  
Lecture for M.sc students
- 2013 to now** - Radiation physics  
University of Medical Sciences - Shiraz - Iran  
Lecture for M.sc students
- 2013 to now** - Atomic and nuclear physics  
University of Medical Sciences - Shiraz - Iran  
Lecture for M.sc students
- 2013 to now** - Radiation Protection  
University of Medical Sciences - Shiraz - Iran

## **Projects:**

- Study in gene expression changes of P53, Inf-g, Tgf-b, Pf4, and G0s2 in Peripheral blood lymphocyte in human (My PhD Thesis)  
University of Medical Sciences - Mashhad - Iran
  
- Mobile phone radiation exposure effects on Bax & Bcl-2 genes expression in mice brain hippocampus  
University of Medical Sciences - Medical Physics Department - Mashhad - Iran  
(M.sc student project, Supervisors: M. T. Bahreyni and R. Fardid)
  
- Evaluation of Bax & Bcl-2 genes expression changes in irradiated human peripheral blood lymphocytes as Gamma low dose Biomarkers  
University of Medical Sciences - Medical Physics Department - Mashhad - Iran  
(M.sc student project, Supervisors: M. T. Bahreyni and R. Fardid)
  
- Evaluation effective dose and equivalent dose of staffs in interventional radiology in Mashhad Hospitals  
Hospitals in Mashhad & University of Medical Sciences - Mashhad - Iran  
(M.sc student project, Supervisors: M. T. Bahreyni and R. Fardid)
  
- Investigation gene expression levels in lung and heart tissues of proton irradiated rat tissues, in out-field and in-field regions  
University Medical Center Groningen - Groningen - The Netherlands
  
- Evaluation of XPA & RAD51 genes expression changes in irradiated human peripheral blood lymphocytes as Gamma low dose Biomarkers  
University of Medical Sciences - Medical Physics Department - Mashhad - Iran  
(M.sc student project, Supervisors: M. T. Bahreyni and R. Fardid)
  
- Gene expressions in Glial cell lines for evaluating bystander effects mechanisms  
University of Medical Sciences - Medical Physics Department - Tehran - Iran  
(M.sc student project, Supervisors: A. Neshasteriz and R. Fardid)
  
- Evaluation of TGF-b and IFN-g genes expression changes in irradiated human Peripheral blood lymphocytes as Gamma low dose Biomarkers  
Shiraz University of Medical Sciences - Radiology Department - shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)



- Evaluation of DDB2 and XPC genes expression changes in irradiated human Peripheral blood lymphocytes as Gamma low dose Biomarkers  
Shiraz University of Medical Sciences - Radiology Department - shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)
  
- The evaluation of non-target effect of radiation exposure on expression of Endothelin-1 and Cyclooxygenase-2 genes in the Heart after the Pelvis Irradiation of Male Rat  
Shiraz University of Medical Sciences - Radiology Department - shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)
  
- Evaluation of protective effect of hesperidin on radiation pneumonitis and biochemical changes in rat lung tissue irradiated with Megavoltage radiation  
Shiraz University of Medical Sciences - Radiology Department - shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)
  
- Evaluation of the role of Hesperidin in the modulator of apoptosis and its effect on expression levels of target genes ( bax and bcl-2 ) in peripheral blood lymphocytes of rats after gamma irradiation  
Shiraz University of Medical Sciences - Radiology Department - shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)
  
- The out of field effect of pelvis irradiation on COX-2 , iNOS proteins expression and 8-Hydroxy-2'-Deoxyguanosine in the male rat's Lung and the impact of Melatonin on its expression  
Shiraz University of Medical Sciences - Radiology Department - shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)
  
- Evaluation radiation dose of cardiologists during Cardiac Angiography Procedures with Dose Area Product (DAP) of x-ray faghihi hospital angiography device using Monte Carlo Method  
Shiraz University of Medical Sciences - Radiology Department - shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)
  
- Evaluation of the Gamma-H2AX expression as a biomarker of DNA damage in X-ray radiation from CT scans of the abdomen and chest  
Shiraz University of Medical Sciences - Radiology Department - shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)
  
- Mechanistic studies of MTBE (Methyl Tertiary butyl ether) induced metabolic disorders in rat; Disturbance of zinc homeostasis and mitochondrial dysfunction  
Shiraz University of Medical Sciences - shiraz - Iran  
(Ph.D Candidate project, Co-Supervisors: R. Fardid)

- Evaluation of the Gamma-H2AX expression as a biomarker of DNA damage after X-ray radiation in Angiography  
Shiraz University of Medical Sciences - Shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)
  
- Evaluation of the Gamma-H2AX expression as a biomarker of DNA damage in X-ray radiation from CT scans of the abdomen and chest  
Shiraz University of Medical Sciences - Shiraz - Iran  
(M.sc student project, Supervisors: R. Fardid)
  
- Exposure assessment of healthcare workers occupationally exposed to inhalable anesthetic gases in operating rooms and measurement of genotoxic and oxidative stress outcomes associated with this exposure and its relationship with GSTT1, GSTM1 and GSTP1 genes polymorphisms  
Shiraz University of Medical Sciences - Shiraz - Iran  
(Ph.D Candidate project, Co-Supervisors: R. Fardid)

**Book:**

Fardid R, Najafi M. *Radiation Biology*. 2015; Shiraz University of Medical Sciences, ISBN: 9786006391458.

**Research interests**

- Radiobiology
- Biological dosimetry, Gene-dosimetry
- Real-Time PCR and Gene expression
- Occupational Radiation Workers monitoring
- Radiation Protection
- Electronic Personal Dosimeter
- Electronic Background Radiation Monitoring
- Electronic Devices in Medical Care and Measurements
- Image Processing
- High-Tech Instrument Designing
- Electronics and physics of electronics
- Medical device instruments

## Recommendations:

University Medical Center Groningen

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Department of Radiation Oncology

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Date: 19/12/12

To whom it may concern,

It is my great pleasure to provide this letter in support of Dr. Reza Fardid. Dr. Fardid worked in my lab on the expression of genes in volume in normal tissue response after irradiation. During the 6 months period of his stay he showed to be a hard working, motivated, bright and social individual. He showed great independence without losing sight of the group processes. He showed to be capable of developing new methods and research approaches. I am sure he will develop further as a teacher, scientist and a group leader.

I believe that Reza will be suitable for academic faculty positions, given his intellect, personal drive and skills in molecular radiation biology. He seems to be able to become a mature and independent scientist with a clear vision that will make him an outstanding scientist.

Sincerely yours,

A handwritten signature in blue ink that reads "RPCoppes" with a long horizontal line underneath.

Rob Coppes, Ph.D  
Professor of Radiotherapy  
University Medical Center Groningen

To Whom It May Concern:

I know Mr Reza Fardid from his early studies in his BSc degree. This recommendation is written based on his request. Mr Fardid is a hard working, motivated and social individual who has worked and collaborated in experimental tasks in my laboratory. He is a well-experienced electronics man who has designed, constructed and successfully installed various He- Ne laser power supplies and has got invaluable experiences in functioning and handling of these devices, especially in the high voltage regime. I am sure he will be successful in his future carrier and I recommend him for a proper promotion.

H. Nadgaran, PhD, FinsP



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