

<< *CURRICULUM VITAE* >>



Name: Mohammad Mehdi Movahedi
D.O.B: May 14, 1961
Address: Shiraz University of Medical Sciences
Medical Physics & Medical Engineering Department
Zand Ave. Zip code 71344
Shiraz IRAN

Tel. No.: #98-713-2349332- #98- 09171169982

E-mail : [Movahedim@sums.ac.ir](mailto: Movahedim@sums.ac.ir)
mehdi_movahedi@yahoo.com

Marital status: Married with one kid

EDUCATION

Universities attended

- Ph.D : Ph.D Degrees in Biomedical Engineering (Bioelectronics)
Title: Investigating the photo-thermo-radiosensitization effects of folate-conjugated gold nanorods on KB nasopharyngeal carcinoma cells.
- 93-95 Master's Degrees (M.Sc.) in Biomedical Engineering (Bioelectronics)
University of Hertfordshire, Hatfield, Hertz, England.
(M.Sc. Thesis: Simulation of A 12 Lead Electrocardiogram)
- 89-93 Bachelor's Degrees (B.Sc.) in Electronics Engineering with Medical Applications
Engineering University of Copenhagen, Copenhagen, Denmark.
(B.Sc. Project: Simulating Dynamic Systems with SPICE)

High Schools attended

- 88 -89 Pre universities, Diploma in Mathematics and Physics.
Odense teknikum collage, Odense, Denmark
- 86-88 Language collage, Odense, Denmark
- 75-79 Diploma in Mathematics and Physics,
Hag Ghavam High School, Shiraz, Iran.

Work Experience

- 2017 Member of Scientific Committee of the Mobile Health Congress. (2017)
- 2007- Now Member of Safety and Health Committee. (SUMS)
- 2014 - Now Executive Director of Ionizing and non-Ionizing Radiation Research Center. (SUMS)
- 2012 - 2013 Shahid faghihi Hospital Health Physicist.
- 2010 - Now Shiraz Medical School Health Physicist.

2010 - Now Member of Health Technology Research Center.(SUMS)
2007 - Now Member of medical equipment development center.(SUMS)

2007 - 2012 **Shiraz Medical School Department of Medical physics & Engineering**
Position: **Head of Medical Physics & Engineering Department**
- Attending in Establishing Medical physics&Medical Engineering Department
- Attending in Establishing Medical physics& Engineering Lab
- Assistant Dean for Education of Medical Physics & Engineering Department

2002-2007 **Shiraz Medical school - Physiology Department**
Position: Head of Medical Physics group of Physiology Department and member of academic staff.

96 -97 **Shiraz University of Medical sciences - Medical equipments office**
- Senior engineer
- Designing and repairing medical and Biomedical Instrumentation

97-98 **Shahid Faghihi Hospital**
Position: Head of Medical Engineering Department.
- Attending to Establishing of Medical Engineering Department
- Involved in teaching and training for hospital staffs
- Designing and repairing medical and Biomedical Instrumentation.
- Designing electronic devices.
- Data storage of Hospital Medical devices.
- Installation of new devices at the hospital.

Supervisor of M.Sc. Projects

1. Feasibility study of the correlation and recording of CT and MRI images of patients with brain tumor and fragmentation of fused and primary images(2018)
2. Estimating motor unit firing pattern statistics using artificial neural networks and fuzzy system(2018)
3. Design and Construction a Pulse Oximeter Phantom (2017)
4. Oxygen saturation monitoring. (2017)
5. A robust likelihood-based method for estimating motor unit potential Templates. (2017)
6. Designing a laser-targeting system to locate kidney stone in PCNL surgery. (2017)
7. Designing software for predicting the outcome of Percutaneous Nephrolithotomy using artificial neural network technology. (2017)
8. Spike Sorting Using Spectral Clustering. (2017)
9. Design an Algorithm with Appropriate Function for Automatic Detection of Abnormal Region within the Breast Ultrasound Film (2016)
10. Study of factor affecting of performance of Dc shock and ECG devices in Kohgiluye and Boyer ahmad hospital (2016)
11. Design and Fabrication of an Instrument for Continuous Measurement of Cardiac Output using Arterial Pulse Waveform. (2016)
12. Compression algorithm suitable for signal preparing for transmission via GSM services. (2015)
13. Automatic Cerebral Magnetic Resonance Image Segmentation using Artificial Neural Network. (2014)
14. Effects of fetal life exposure to extremely low frequency electromagnetic fields (5, 25 Hz) on adult male rat social behavior.
15. Effects of extremely low frequency electromagnetic fields (5, 25Hz) on adulthood learning in rat.
16. Effect of electromagnetic field with frequencies lower than 50Hz and intensities of 50 and 500 μ T on one-way active avoidance conditioning in male rat.

Supervisor of Medicine Students

17. Evaluation of short-term exposure to electromagnetic fields from Common Wi-Fi Routers on alteration of sensitivity to Antibiotics and growth rate of opportunistic pathogenic micro-organisms. (2017)
18. A survey of short term exposure to radon gas emitted by soil microorganism Ramsar changes opportunistic pathogen sensitivity to Antibiotics.(2017)
19. Short-term exposure to electromagnetic fields from mobile phones of third generation (3G) changes opportunistic pathogenic micro-organisms sensitive to the ultraviolet radiation of heat and antiseptics. (2017)
20. Evaluation of short-term exposure to electromagnetic fields from mobile Jamming (Jmr) changes sensitivity of opportunistic pathogenic micro-organisms to ultraviolet radiation, heat and antiseptics. (2017)
21. A study on the radiation dose to the Orthopedists and the staff from a C-arm fluoroscopy (2015)
22. Study of hearing loss caused by short-term exposure to Mobile Jammer in Student 18-27 Years Old. (2015)
23. Evaluation of radiation exposure during Fluoroscopy Guided Orthopedic surgeries. (2014)
24. Novel Paint design based on Nano Powder to protection against X and gamma rays. (2013)

Teaching Abilities/ Courses and Laboratories Taught

- Electronic Microscope (PhD. student of Anatomy)
- Advance Mathematic (PhD. student of physiology)
- Medical Instrumentation (M.Sc Students of Medical Engineering)
- Medical imaging Systems (M.Sc Students of Medical Engineering)
- Biomedical Engineering Lab. (M.Sc Students of Medical Engineering)
- Quality control of radiographic equipments (M.Sc Students of Medical physics)
- Diagnostic Radiography (M.Sc Students of Medical physics)
- Application of Electricity and Magnetic in Medicine (M.Sc Students of Medical physics)
- Medical Physics (Students of Medicine)
- Medical Physics for dentist (Dentist student)
- Physics in Pharmacy (Students of pharmacy)
- Physics for the life sciences (Laboratory student)
- Apply Physics (Laboratory student)
- Biophysics (Student of Health Sciences)
- Physics for physiotherapists (Physical Therapy Students)
- Medical and Biomedical Instrumentation (Medical Technology Students)
- Physics of diagnostic Radiology (Radiology Students)
- Physics for diagnostic radiation (Radiology Students)
- Physics in nursing (Nursing student)
- Equipment for Diagnostic Radiography (Student of Radiological Technology)
- Designing and Repairing Radiology Equipments (Radiology Students)
- General Physics (Professional Health students)
- General Physics (Student of Environmental Health)
- Medical Physics Lab (Students of Medicine and Pharmacy)

1991, 1992 Capital Computer (Derwood, Maryland, USA)

Implementation of personal computers.

Papers & Research (English)

1. **Mohammad Mehdi Movahedi**, F Nouri, A Tavakoli Golpaygani, A Ataee, S Amani, M Taheri. Antibacterial Susceptibility Pattern of the Pseudomonas aeruginosa and Staphylococcus aureus after Exposure to Electromagnetic Waves Emitted from Mobile Phone Simulator"2018.
DOI: <https://doi.org/10.31661/jbpe.v0i0.1107>
2. **Mohammad Mehdi Movahedi et all.** A multiple model algorithm for estimating motor unit firing pattern statistics.(2018)
3. Alireza Shafe, Ali Zamani, **Mohammad Mehdi Movahedi**, Alireza Amin Sharifi. Designing a Laser-based System for Locating Kidney Stones in Surgeries through Percutaneous Nephrolithotomy (PCNL). DOI: 10.5742/MEWFM.2018.93358.
April 1, 2018
Mohammad Mehdi Movahedi et all. Massive cell injury and apoptosis induction in human cancer cells following nanoparticles assisted photothermo_ radiotherapy.(2018)
4. Tavakoli Golpaygani A, **Movahedi MM** , Reza M , Hassani K. A study on performance and safety test of infusion pump devices. July 13, 2016
5. **Mohammad Mehdi Movahedi**, Alireza Mehdizadeh, Fereshteh Koosha, Neda Eslahi, Vahid Pirhajati Mahabadi, Habib Ghaznavi, Ali Shakeri-Zadeh. Investigating the photo-thermo-radiosensitization effects of folate-conjugated gold nanorods on KB nasopharyngeal carcinoma cells.(2019).
doi.org/10.1016/j.pdpdt.2018.10.016
6. **Mohammad Mehdi Movahedi et all.** Effects of Short-term Exposure to Electromagnetic Fields Emitted by 3-4G mobile Phone on Reaction Time and Short-term Memory. Iranian Journal of Medical Physics.
7. Mortazavi SMJ, Zarei S, et all. Sensitivity to Antibiotics of Bacteria Exposed to Gamma Radiation Emitted from Hot Soils of the High Background Radiation Areas of Ramsar, Northern Iran. *Int J Occup Environ Med*_ 2017 Apr;8(2):80-84. doi: 10.15171/ijoem.2017.958.
8. **Mohammad Mehdi Movahedi.** How Dose Electromagnetic Fields generated by Mobile Phone Affect Reaction Time?. International Conference on Innovations in Computational Bioengineering, Computer Sciences & Technology.(IBCST)Dec 08, 2017.
9. Tavakoli Golpaygani, **M. M. Movahedi**, H. Hafezi. Medical Devices Safety Enhancement and Performance Improvement through a Periodic Calibration Program. World Congress on Medical Physics@Biomedical Engineering June 3 – 8,2018Prage Czech Republic.
10. Alireza Shafe ,Ali Zamani ,**Mohammad Mehdi Movahedi** ,Alireza Amin Sharifi . Designing a Laser-based System for Locating Kidney Stones in Surgeries through Percutaneous Nephrolithotomy (PCNL). Middle East Journal of Family Medicine . Apr2018, Vol. 16 Issue 4, p118-125.
11. **M M Movahedi**, J Azadbakht, S Amani, A R Mehdizadeh. Evaluation of Radiation Exposure during Fluoroscopy Guided Orthopaedic Surgeries.sadra Medical Sciences Journal.vol5,No 3(2017).
12. Tavakoli Golpaygani A, **Movahedi MM**, Reza M. A Study on Performance and Safety Tests of Defibrillator Equipment. *J Biomed Phys Eng.* 2017;7(4):397-402. Published 2017 Dec 1.
13. Vakily A, Parsaei H, **Movahhedi MM**, Sahmeddini MA. A System for Continuous Estimating and Monitoring Cardiac Output via Arterial Waveform Analysis. Journal of Biomedical Physics and Engineering. 2016 Jun 22.
14. Ramezani A, Golpaygani AT, **Movahedi MM**. Metrological Reliability and Electrical Safety: A Case Study on Electrosurgical Equipment. InXIV Mediterranean Conference on Medical and Biological Engineering and Computing 2016 (pp. 935-939). Springer International Publishing.
15. **Movahedi M M** , Tavakoli Golpaygani A , Mortazavi SAR , Mortazavi SMJ. Short-term exposure to mobile jammer radiofrequency radiation adversely affects the human hearing. Biomedical Research. 2016;28(3).
16. Amiri S, **Movahedi MM**, Kazemi K, Parsaei H. 3D cerebral MR image segmentation using multiple-classifier system. Medical & biological engineering & computing. 2016 May 20:1-2.
17. Tavakoli Golpaygani A, **Movahedi MM**, Reza M. A Study on Performance and Safety Tests of Electrosurgical Equipment. Journal of Biomedical Physics and Engineering. 2016 Feb 1

18. **Movahedi MM**, Hatam M, Parsaei H, Tavakoli-Golpaygani A. An Adjustable Extremely Low Frequency Electromagnetic Field Generator. *Frontiers in Biomedical Technologies*. 2015 Nov 9;2(1):1-7.
19. **Movahedi MM**, Alipour A, Mortazavi SA, Tayebi M. Production of a Novel Mineral-based Sun Lotion for Protecting the Skin from Biohazards of Electromagnetic Radiation in the UV Region. *Journal of Biomedical Physics & Engineering*. 2014 May;4(1):9.
20. **Movahedi MM**, Abdi A, Mehdizadeh A, Dehghan N, Heidari E, Masumi Y, Abbaszadeh M. Novel paint design based on Nano powder to protection against X and gamma rays. *Indian journal of nuclear medicine: IJNM: the official journal of the Society of Nuclear Medicine, India*. 2014 Jan;29(1):18.
21. **Movvahedi MM**, Tavakkoli-Golpayegani A, Mortazavi SA, Haghani M, Razi Z, Shojaie-Fard MB, Zare M, Mina E, Mansourabadi L, Safari A, Shokrpour N. Does exposure to GSM 900 MHz mobile phone radiation affect short-term memory of elementary school students? *Journal of pediatric neurosciences*. 2014 May 1;9(2):121.
22. Amiri S, **Movahedi MM**, Kazemi K, Parsaei H. An automated MR image segmentation system using multi-layer perceptron neural network. *Journal of Biomedical Physics & Engineering*. 2013 Dec;3(4):115.
23. **Movahedi MM**, Mehdizadeh AR, Alipour A. Development of a Brain Computer Interface (BCI) Speller System Based on SSVEP Signals. *Journal of Biomedical Physics and Engineering*. 2013 Jul 29;3(3 Sep).
24. **Movahedi MM**, Mehdizadeh A. Evaluation of Radiation Protection in Nuclear Medicine Department in Namazi Hospital According to Global Accepted Standards. *Journal of Fasa University of Medical Sciences*. 2013 Sep 15;3(3):224-9.
25. Mortazavi SM, Omidifar N, Faghihi R, Mehdizadeh S, Masoumi S, Hashemi SM, Haghani M, Nowrouz-Alizadeh F, **Movahheddi MM**. Are Radiation Exposureergonomi Levels Used in Cardiology Dangerous? *Journal of Biomedical Physics and Engineering*. 2012 Sep 15;2(3 Sep).
26. Abedi HA, Zarifkar A, Rastegar K, **Movahedi MM**, Shahrani M. Effects of extremely low frequency electromagnetic fields during foetal life on adulthood learning in male rat. *Journal of Shahrekord University of Medical Sciences*. 2011 Apr 15;13(1):16-20.
27. **Movahedi MM**. Object Recognition with Piezoresistive Tactile Sensor. The 1th MEFOMP international Conference of Medical Physics J Biomed Phys Eng 2011.1
28. Jahandideh S, Abdolmaleki P, **Movahedi MM**. Comparing performances of logistic regression and neural networks for predicting melatonin excretion patterns in the rat exposed to ELF magnetic fields. *Bioelectromagnetics*. 2010 Feb 1;31(2):164-71.
29. Jahandideh S, Jahandideh S, Asadabadi EB, Askarian M, **Movahedi MM**, Hosseini S, Jahandideh M. The use of artificial neural networks and multiple linear regression to predict rate of medical waste generation. *Waste management*. 2009 Nov 30;29(11):2874-9.
30. Golpaygani AT, Najarian S, **Movahedi M**. Tactile sensor for robotic applications. In *World Congress on Medical Physics and Biomedical Engineering*, September 7-12, 2009, Munich, Germany 2009 (pp. 2299-2302). Springer Berlin Heidelberg.
31. Jahandideh S, Jahandideh S, Asadabadi EB, Askarian M, **Movahedi MM**, Hosseini S, Jahandideh M. The use of artificial neural networks and multiple linear regression to predict rate of medical waste generation. *Waste management*. 2009 Nov 30;29(11):2874-9. 2
32. Golpayeghan AT, Najarian S, **Movahedi MM**. Numerical simulation of pulsatile flow with newtonian and nonnewtonian behavior in arterial stenosis. *International Cardiovascular Research Journal*. 2008 Mar;1(3):167-74.
33. Golpaygani A, Najarian S, **Movahedi M**, Emamieh G. Fabrication of a capacitance-based tactile sensor with biomedical applications *Am. J. Appl. Sci*. 2008;5(2):129-35.
34. Jahandideh M, Barkooie SM, Jahandideh S, Abdolmaleki P, **Movahedi MM**, Hoseini S, Asadabadi EB, Jouni FJ, Karami Z, Firoozabadi NH. Elucidating the protein cold-adaptation: Investigation of the parameters enhancing protein psychrophilicity. *Journal of theoretical biology*. 2008 Nov 7;255(1):113-8.

35. **Movahedi MM.** a new figure of merit for Detecting Bone in Frontal Lobe in Ultrasonic Image Using Box Counting Fractal Dimension. International Conference: December 11-12, 2014 Szczecin, Poland Oral Presentation
36. **Movahedi MM.** Radiation doses to patients and cardiologists from permanent cardiac pacemaker implantation procedures. Xth EFOMP congress- Pisa 2007
37. **Movahedi MM.** Automated diabetic retinopathy screening program in Iran: Feasibility study. Accepted for poster presentation. Xth EFOMP congress- Pisa 2007.

Papers & Research

Farsi

38. **موحدی محمد مهدی** ، مهدیزاده علیرضا. بررسی میزان انطباق وضعیت حفاظت پرتوی بخش پزشکی هسته ای بیمارستان نمازی شیراز با استانداردهای بین المللی. مجله دانشگاه علوم پزشکی فسا. Sep 15;3(3):224-92013
39. **موحدی محمد مهدی**، تاثیر امواج الکترومغناطیسی با فرکانس های خیلی کم در دوران جنینی بر میزان یادگیری در دوران بلوغ موش صحرایی نر. مجله دانشگاه علوم پزشکی شهرکرد. Apr 15;13(1):16-20. 2011
40. حمزوی غلامرضا، رستگار کریم، ظریف کار اسداله، **موحدی محمد مهدی**. اثر میدان مغناطیسی با فرکانسهای پایین بر روی حافظه و یادگیری. 19/مجله فیزیک پزشکی ایران دوره 6؛ شماره 2؛ پیاپی (23)؛ تابستان 88
41. **موحدی محمد مهدی**، پیشگویی مقدار زباله ی تولیدی بیمارستانی با استفاده از شبکه عصبی مصنوعی. یازدهمین همایش ملی بهداشت محیط زاهدان؛ 7-9 آبان ماه 1387.
42. جهان دیده صمد، عبدالمالکی پرویز، **موحدی محمد مهدی**. پیشگویی کلاسهای ساختاری پروتئینها در دو وضعیت با استفاده از مدل ترکیبی عصبی-لوجستیک.
43. سید فخرالدین مصباح ، علیرضا چوبینه ، مرضیه السادات توضیحیان ، پیمان جعفری ، سید فخرالدین نقیب الحسینی ، مصطفی شیدموسوی ، کیوان پاکشیر، **محمد مهدی موحدی** ، سعید شبان سروستانی. بررسی تاثیر مداخله ای ارگونومیک در کاهش اختلالات اسکلتی- ماهیچه ای در کارکنان دانشکده پزشکی شیراز. 2016
44. بررسی تابش گیری جراحان یورولوژی و پرتوکاران در طول جراحی تحت گاید فلوروسکوپی در بیمارستان شهید فقیهی شیراز.
45. **محمد مهدی موحدی**، علیرضا مهدیزاده، بهنام خلیفه ، صمد امانی ، شهرام تائب ، حسام الدین مستقیمی .ارزیابی میزان پرتوگیری جراحان یورولوژی و کارکنان شاغل در اتاق عمل بیمارستان شهید فقیهی شیراز. 2016

Publication

1. Contribution on writing and technical editing a book on "Medical physics"
2. Contribution on writing and technical editing a book on "Lasers in Clinical Dentistry"
3. Contribution on writing and technical editing a book on "Medical Electrical Equipment Safety"

National Patent

1. Force and pressure measurement according to elastic membrane deformation
2. Solar autoclaving
3. Solar sterilizer biased on dry air
4. Development of a Brain Computer Interface (BCI) Speller System
5. Novel paint design based on Nano powder to protection against X and gamma rays
6. Design and Construction an Adjustable Extremely Low Frequency Electromagnetic Field Generator.
7. Production of a Novel Mineral-based Sun Lotion

Trainings/Abilities/Tasks Performed

Optoelectronics Systems: Designing of Optical Fiber Receivers
Repairing of Optical and Endoscopy Systems
Designing of Medical Physics instruments
Biophysical Measurements

Medical Instruments: Designing and repairing Medical and Biomedical Instruments
Data storage of Hospital Medical Devices
Control System Designing and Simulation

Able to repairing Biomedical Instruments:

- Circulatory Systems
- Cardiac Defibrillators
- Electrocardiographs and
- Blood Pressure Measurements
- Infusion and Siring Pumps
- Electro Surgical Units
- X-ray Generators
- X-ray Generators
- Flow Measurement

Have skill in below areas, especially computing:

- Digital Signal Processing
- Digital Image Processing
- Program Techniques and Software Design
- Designing of Data Transmission Systems
- Computer Assembling
- Programming in Pascal and C
- Computer Literacy and Knowledge of Word,
- WordPerfect, Windows and SPICE
- Microsoft Office, Graphics, Database Search, Web Technology,
- Sequence Based Searching (Bioinformatics), and Internet.
- Report Controlling of Bio Medical Safety and Standards.
- Electrical Hazard measurement.
- Reporting Dispersion in fiber optics using Single frequency semiconductor Laser.

2014 - 2105

Codification of National Standards, with the Following titles:

Iranian National Standardization Organization

1. INSO: 19495

1st.Edition 2015

Cardiovascular implants and extracorporeal systems - Plasma filters

2. INSO: 19388-2

1st.Edition 2015

Optics and photonics – Microlens arrays - Part 2: wavefront aberrations- Test methods

INSO: 19494

1st.Edition 2015

Accessible design – Application of braille on signage, equipment and appliances

3. INSO: 10044-15

1st.Edition 2015

Wheelchairs - Part 15: Requirements for information disclosure, documentation and labeling

4. INSO:18587

1st.Edition 2014

Optics and optical instruments – Ophthalmic optics – Screw threads

5. INSO:10044-25

1st.Edition 2015

Wheelchairs - Part 25: Batteries and chargers for powered wheelchairs — Requirements and test methods

6. INSO: 18585

1st.Edition 2014

Optics and photonics – Lasers and laser-related equipment- Specular reflectance and regular transmittance of optical laser components- Test methods

7. INSO: 18588

1st.Edition 2014

Optics and optical instruments –Ophthalmic optics – Formers

8. INSO:19388-4

1st.Edition 2014

Optics and photonics - Microlens arrays – Part 4: Geometrical properties- Test methods

9. INSO:18586

1st.Edition 2014

Optics and optical instruments – Radiation scattered by optical components - Test methods

10. INSO: 19388-3

1st.Edition 2014

Optics and photonics - Microlens arrays – Part 3: Optical properties other than wavefront aberrations - Test methods

LANGUGE SKILLS

- Persian, mother tongue
- Danish
- English
- Norwegian

Affiliation

Membership:

- Iranian Inventors Association
- Member of the Society of Engineers of Denmark
- Associate member of The Institution of Electrical Engineering in UK