

SAEED SARKAR

PhD



2019

Full Professor

Department of Medical Physicist and Biomedical Engineering
Tehran University of Medical Sciences, Tehran, Iran

**Head of Research Center for Science and Technology in Medicine
(RCSTIM), Tehran, Iran**

Presidency

Secretary General of Iran Nano Technology Initiative Council (INIC)

Personal Information

Name: Saeed
Surname: Sarkar
Date of Birth: 30/01/1958
Nationality: Iranian
Marital Status : Married
Email: sarkar@tums.ac.ir
Position: Full Professor
Department of Medical physics and Biomedical Engineering
Tehran University of Medical Sciences
Tel: +98 21 66907517
Fax: +98 21 66581533

Academic Background

1994 Physics Department
University of Surrey, Guildford, UK, GU2 5XH
Ph.D. Degree in Medical Physics(Nuclear Medicine)

1998 Physics Department
University of Surrey, Guildford, UK, GU2 5XH
MSc in Medical Physics

1979-1984 College of Science,
Kashan University, Kashan, Iran
BSc in Physics

Professional Activities

- Secretary General of Iran Nano Initiative Council, Presidency, 2008 till now
- Head of Research Center for Science and Technology in Medicine (RCSTM), 2002 till now
- Head of Health Physics, Tehran Univ. of Medical sciences, since 1996
- Head of Medical Physics Dep., Tehran Univ. of Medical sciences, from 1997 till 2004
- Supervised more than 30 MSc and 10 PhD students
- Published more than 70 papers in different national and ISI journals and more than 40 national and international published abstract and 2 books.
- Published 20 International Patents and 2 National.

Publications

Peer-reviewed Journal Publications:

1. Magnetic hyperthermia of breast cancer cells and MRI relaxometry with dendrimer-coated iron-oxide nanoparticles. Marzieh Salimi, Saeed Sarkar, Reza Saber, Hamid Delavari, Ali Mohammad Alizadeh, Hendrik Thijmen Mulder, *Cancer Nanotechnology*, 9(1):7, 2018.
2. Biodistribution, pharmacokinetics, and toxicity of dendrimer-coated iron oxide nanoparticles in BALB/c mice, Marzieh Salimi, Saeed Sarkar, Samaneh Fathi, Ali Mohammad Alizadeh, Reza Saber, Fatemeh Moradi, Hamid Delavari, *Cancer Nanotechnology*, Vol: 13 (2018), 1483-1493.
3. Isolation of HL-60 cancer cells from the human serum sample using MnO₂-PEI/Ni/Au/aptamer as a novel nanomotor and electrochemical determination of thereof by aptamer/gold nanoparticles-poly(3,4-ethylene dioxythiophene) modified GC electrode, Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar, *Biosensors and Bioelectronics*, 110(2018) 141-146.
4. An electrochemical aptamer-based assay for femtomolar determination of insulin using a screen printed electrode modified with mesoporous carbon and 1,3,6,8-pyrenetetrasulfonate, Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar, Maryam Besharat, *Microchimica Acta*, 185 (2018) 59.
5. Evaluation of size, morphology, concentration, and surface effect of gold nanoparticles on X-ray attenuation in computed tomography, Sara Khademi, Saeed Sarkar, Sharmin Kharrazi, Seyed Mohammad Amini, Ali Shakeri-Zadeh, Mohammad Reza Ay, Hossein Ghadiri, *Physica Medica-European Journal of Medical Physics*, 45 (2018) 127-133.
6. A Nanotechnology-based Strategy to Increase the Efficiency of Cancer Diagnosis and Therapy: Folate-conjugated Gold Nanoparticles, Jaber Beik, Sara Khademi, Neda Attaran, Saeed Sarkar, Ali Shakeri-Zadeh, Habib Ghaznavi, Hossein Ghadiri, *Current Medicinal Chemistry*, 2017, 24, 1-18.
7. Flow injection amperometric sandwich-type aptasensor for the determination of human leukemic lymphoblast cancer cells using MWCNTs-Pdnano/PTCA/aptamer as labeled aptamer for the signal amplification, Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar, *Analytica Chimica Acta* xxx (2017) 1-8.
8. An ultrasensitive sandwich-type electrochemical immunosensor for the determination of SKBR-3 breast cancer cell using rGO-TPA/FeHCFnano labeled Anti-HCT as a signal tag, Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar, Najmeh Zolfaghari, *Sensors and Actuators B*, 243(2017) 823-830.
9. Simultaneous determination of CYC and VEGF₁₆₅ tumor markers based on immobilization of flavin adenine dinucleotide and thionine as probes on reduced graphene oxide-

poly(amidoamine)/gold nanocomposite modified dual working screen-printed electrode, Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar, *Sensors and Actuators B*, 240 (2017) 1174–1181.

10. A high sensitive visible light-driven photoelectrochemical aptasensor for shrimp allergen tropomyosin detection using graphitic carbon nitride-TiO₂ nanocomposite, Mahmoud Amouzadeh Tabrizia, Mojtaba Shamsipur, Reza Sabera, Saeed Sarkara, Vahid Ebrahimi, *Biosensors and Bioelectronics*, 98 (2017) 113-118.
11. Flow injection amperometric sandwich-type electrochemical aptasensor for the determination of adenocarcinoma gastric cancer cell using aptamer-Au@Ag nanoparticles as labeled aptamer, Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar, Narjes Sherkatkhameneh, *Electrochimica Acta*, 246 (2017) 1147–1154
12. Hejazi, S.M., Sarkar, S., Darezereshki, Z., Fast multislice fluorescence molecular tomography using sparsity-inducing regularization, *Journal of Biomedical Optics*, 2016, 21 (2), 026012,.
13. Zahmatkeshan M, Ilkhani H, Paknejad M, Adel M, Sarkar S, Saber R,” Analytical characterization of label-free immunosensor subsystems based on multi-walled carbon nanotube array-modified gold interface.” *Comb Chem High Throughput Screen*. 2015;18(1):83-8.
14. Moji V, Zeratkar N, Farahani MH, Aghamiri MR, Sajedi S, Teimourian B, Ghafarian P, Sarkar S, Ay MR., “Performance evaluation of a newly developed high-resolution, dual-head animal SPECT system based on the NEMA NU1-2007 standard”, *J Appl Clin Med Phys*. 2014 Nov 8;15(6):4936.
15. Zeraatkar N, Sajedi S, Farahani MH, Arabi H, Sarkar S, Ghafarian P, Rahmim A, Ay MR,”Resolution-recovery-embedded image reconstruction for a high-resolution animal SPECTsystem” *Phys Med*. 2014 Jun 27.
16. Sajedi, S., Zeraatkar, N., Moji, V., Farahani, M.H., Sarkar, S., Arabi, H., Teymoorian, B., Ghafarian, P., Rahmim, A., Reza Ay, M ,“Design and development of a high resolution animal SPECT scanner dedicated for rat and mouse imaging”, *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2014. <http://dx.doi.org/10.1016/j.nima.2014.01.001>
17. Saber, R.ab , Shakoori, Z.a, Sarkar, S.ab, Tavoosidana, G.d, Kharrazi, S.a, Gill, P., “Spectroscopic and microscopic analyses of rod-shaped gold nanoparticles interacting with single-stranded DNA oligonucleotides”, *IET Nanobiotechnology*, 2013.
18. Emami, T., Madani, R. , Rezayat, S.M., Golchinfar, F., Sarkar, S., “Applying of gold nanoparticle to avoid diffusion of the conserved peptide of avian influenza nonstructural protein from membrane in Western blot”, *Journal of Applied Poultry Research*, 2012.

19. Mirzaei, E., Amani, A., Sarkar, S., Saber, R., Mohammadyani, D., Faridi-Majidi, R. "Artificial neural networks modeling of electrospinning of polyethylene oxide from aqueous acid acetic solution", *Journal of Applied Polymer Science*, 2012.
20. Shirkavand, A., Ataie-Fashtami, L. , Sarkar, S., Alinaghizadeh, M.R., Fateh, M., Zand, N., Djavid, G.E , "Thermal damage patterns of diode hair-removal lasers according to various skin types and hair densities and colors: A simulation study", *Photomedicine and Laser Surgery*, 2012.
21. S.M. Rezayat ,S.V.S. Boushehri, B. Salmanian, A.H. Omidvari, S. Tarighat, S. Esmaeili, S. Sarkar , N. Amirshahi , R.N. Alyautdin, M.A. Orlova , I.V. Trushkov, A.L. Buchachenko, K.C. Liu, D.A. Kuznetsov, "Applying of gold nanoparticle to avoid diffusion of the conserved peptide of avian influenza nonstructural protein from membrane in Western blot", *Journal of Applied Poultry Research*, 2012 .
22. Adeli S, Zarrindast MR, Niknahad H, Sarkar S, Bidgoli SA, Korani M, Ghasemzadeh P, Rezayat SM. , "Protective effects of a magnesium magnetic isotope (Mg25)-exchanging nanoparticle (25MgPMC16) on mitochondrial functional disorders in esmolol-induced cardiac arrest in rats.", *Auton Autacoid Pharmacol.* 2012.
23. Farahmand, F., Hamid, R., Sarkar, S., Behzadpour, A., Mirbagheri, A., "An overview of medical roboticts in Iran", *Realhes industrielles*, 2012.
<http://www.anales.org/ri/2012/resumes/fevrier/10-ri-resum-FR-AN-AL-ES-fevrier-2012.html>
24. Mirzaei, E., Amani, A., Sarkar, S., Saber, R., Mohammadyani, D., Faridi-Majidi, R. , " Artificial neural networks modeling of electrospinning of polyethylene oxide from aqueous acid acetic solution", *Journal of Applied Polymer Science* 125 (3) , pp. 1910-1921, 2012.
25. Ghazanfari, N., Sarkar, S., Loudos, G., Ay, M.R, "Quantitative assessment of crystal material and size on the performance of rotating dual head small animal PET scanners using Monte Carlo modeling", *Hellenic Journal of Nuclear Medicine* 15 (1) , pp. 33-39+80 , 2012.
26. E. Saeedzadeh, S. Sarkar, A. Abbaspour Tehrani-Fard, M.R. Ay, H.R. Khosravi, G. Loudos "3D Calculation of Absorbed Dose for 131I Targeted Radiotherapy: A Monte Carlo Study" *Radiation Protection Dosimetry*, 2012.
27. Zeraatkar, N., Ay, M.R., Ghafarian, P., Sarkar, S., Geramifar, P., Rahmim, A. , "Monte Carlo-based evaluation of inter-crystal scatter and penetration in the PET subsystem of three GE Discovery PET/CT scanners", *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment* 659 (1) , pp. 508-514, 2011.
28. Saber, R., Sarkar, S., Gill, P., Nazari, B., Faridani, F. , " High resolution imaging of IgG and IgM molecules by scanning tunneling microscopy in air condition", *Scientia Iranica* 18 (6) , pp. 1643-1646, 2011.

29. N. Zeraatkar, M. R. Ay, P. Ghafarian, S. Sarkar, P. Geramifar, and A. Rahmim "Monte Carlo-based evaluation of inter-crystal scatter and penetration in the PET subsystem of three GE Discovery PET/CT scanners" Nuclear. Instrumentation Methods in Physics Research A, 2011, Vol. 659, pp. 508-514
30. P. Geramifar, M.R. Ay, M. Shamsaie Zafarghandi, S. Sarkar, G. Loudos, A. Rahmim, "Investigation of Time-of-Flight Benefits on the LYSO-Based PET/CT Scanner: A Monte Carlo Study Using GATE " Nuclear. Instrumentation Methods in Physics Research A , 2011 Vol. 641, pp. 121-127
31. M. R. Ay, M. Shirmohammad, S. Sarkar, A. Rahmim, H. Zaidi, "Comparative assessment of energy-mapping approaches in CT-based attenuation correction for PET" Molecular Imaging & Biology, 2011, Vol. 13, pp. 187-198.
32. Elham Saeedzadeh, Ali Abbaspour Tehrani-Fard, Saeed Sarkar, Mohammad Reza Ay, Hamid Reza Khosravi⁴ , "Accurate 3D Dosimetry for Internal Radiotherapy By Considering the Effect of Nonuniform Activity Distribution", Iranian Journal of Nuclear Medicine , 18(Suppl 1) : 112, 2010.
33. Ataie-Fashtami, L., Shirkavand, A., Sarkar, S., Alinaghizadeh, M., Hejazi, M., Fateh, M., Esmaeeli Djavid, G., (...), Mohammadreza, H. , "Simulation of heat distribution and thermal damage patterns of diode hair-removal lasers: An applicable method for optimizing treatment parameters," Photomedicine and Laser Surgery 29 (7) , pp. 509-515 ,2011. <http://online.liebertpub.com/doi/pdf/10.1089/pho.2010.2895>
34. Akbarzadeh A , Ay MR, Ghadiri H , Sarkar S , Zaidi H, "Measurement of scattered radiation in a volumetric 64-slice CT scanner using three experimental techniques", Physics in Medicine and Biology, Vol55, Issue8, PP2269-2280, Published: APR 21, 2010 .
35. Mohebbali M, Rezayat MM, Gilani K, Sarkar S, Akhoundi B, Esmaeili J, Satvat T, Elikae S, Charehdar S, Hooshyar H, "Nanosilver in the treatment of localized cutaneous leishmaniasis caused by Leishmania major (MRHO/IR/75/ER): an in vitro and in vivo study " , DARU-JOURNAL OF FACULTY OF PHARMACY Vol17 , Issue 4, PP 285-289 , 2009 .
36. Gharehaghaji, N., Oghabian, M.A., Sarkar, S., Darki, F., Beitollahi, A.," How size evaluation of lymph node is protocol dependent in MRI when using ultrasmall superparamagnetic iron oxide nanoparticles ",Journal of Magnetism and Magnetic Materials 321 (10), pp. 1563-1565,2009. <http://dx.doi.org/10.1016/j.jmmm.2009.02.086>
37. N.GHareaghaji, MA Oghabian, S.Sarkar, S.Amirmohseni, H.Ghanaati, "Optimization of Pulse Sequences in Magnetic Resonance Lymph Nodes Using Magnetic Nanoparticles" , Nanoscience and nano technology, Vol.9, 4448-4452, 2009.
38. N.Mokhtari, S.Daneshpajouh, S.Seyedbagher, R.Atashdeheghan, k.Abdi, S.Sarkar, S.Minaian, HR.Shahverdi, Ar.Shahverdi, "Biological Synthesis of Very Small Silver Nanoparticles by culture Supernatant of Klebsiella Pneumonia: The Effect of visible-light irradiation and the liquid mixing process", Materials Research Bulletin 44,1415-1421, 2009.

<http://dx.doi.org/10.1016/j.materresbull.2008.11.021>

39. Sarkar, MD Abolhassani, F Farahmand, AR Ahmadian, R Saber, "Research activities at the research center for science and technology in medicine" , Iranian Journal of Public Health, Vol.38,Suppl.1,2009.
40. S Sarkar, A Beitollahi, "An overview on nanotechnology activities in Iran", Iranian Journal of Public Health, Vol.38,Suppl.1,2009.
41. N. Ghaeaghaji, M. A. Oghabian, S. Sarkar, S. Amirmohseni, H. Ghanaati, " Optimization of pulse sequences in magnetic resonance lymphography of axillary lymph nodes using magnetic nanoparticles", J Nanosci Nanotechnol, 2009.
42. S.M.Rezayat, S.V.S. Boushehri, B. Salmanian, A.O. Omidvari, S.Tarighat, S. Esmaeli, S. Sarkar, N. Amishahi, R.N. Alyautdin, M.A. Orlova, I.V. Trushkov, A.L. Buchachenko, K.C. Liu, D.A. Kuznetsov, " The porphyrin-fullerene nanoparticles to promote the ATP overproduction in myocardium: $^{25}\text{Mg}^{2+}$ -magnetic isotope effect", European Journal of Medicinal Chemistry ,2009.
43. Shahidi, A., Mahboobi, S.H., Pirouzpanah, S., Esteki, H., Sarkar, S.," Trajectory following of a micro motion stage based on closed-loop FEM simulation ",ASME International Mechanical Engineering Congress and Exposition, Proceedings 11 PART A, pp. 155-158,2008.
44. Nima Amirshahi¹, Renad N. Alyautdin¹, S. Mahdi Rezayat², Saeed Sarkar, Marina A. Orlova, Alexey P. Orlov³, Andrey A. Poloznikov³, Dmitry A. Kuznetsov, "Fullerene-Interfaced Porphyrin Ligand in Affinity Chromatography of Membrane Proteins", Chromatographia, 68,No. 3/4, 2008.
45. Nima Amirshahi, Renad N. Alyautdin, Seyed M. Rezayat, Saeed Sarkar, Marina A. Orlova, Igor V. Trushkov, Anatoly L. Buchachenko, Dmitry A. Kuznetsov, "New Porphyrin Adduct of Fullerene – C₆₀:A promising nano-tool for medicinal use in the heart muscle hypoxia cases ", International Journal of Nanoscience, accepted on Mar 27, 2008.
46. Nima Amirshahi,^a Renad N. Alyautdin,^a Saeed Sarkar,^b Seyed M. Rezayat,^b Marina A. Orlova, Igor V. Trushkov,^c Anatoly L. Buchachenko,^d and Dmitry A. Kuznetsov, "Fullerene-based Low Toxic Nanocationite Particles (Porphyrin Adducts of Cyclohexil Fullerene-C₆₀) to Treat Hypoxia-induced Mitochondrial Dysfunction in Mammalian Heart Muscle", Archives of Medical Research , 39, P 549-559, 2008.
47. Ahmadian A, Ay MR, Bidgoli JH, Sarkar S, Zaidi H,"Correction of oral contrast artifacts in CT-based attenuation correction of PET images using an automated segmentation algorithm", Eur J Nucl Med Mol Imaging. 2008 Apr 17. <http://dx.doi.org/10.1007/s00259-008-0756-7>
48. Changizi V, Oghabian MA, Speller R, Sarkar S, Kheradmand AA., "Application of small angle X-ray scattering (SAXS) for differentiation between normal and cancerous breast tissue",Eur J Nucl Med Mol Imaging. 2008 Apr 17.

49. A. Ahmadian, M.R. Ay, J.H. Bidgoli, S. Sarkar and H. Zaidi "Correction of oral contrast artefacts in CT-based attenuation correction of PET images using an automated segmentation algorithm" *Eur. J. Nucl. Med. Mol. Imaging*, 2008.
50. M.R. Ay and S. Sarkar, "Computed Tomography Based Attenuation Correction in PET/CT: Principles, Instrumentation, Protocols, Artifacts and Future Trends", *Iranian J. Nucl. Med.*, 2007.
51. AY MR, Sarkar S, "Computed tomography based attenuation correction in PET/CT: Principles, instrumentation, protocols, artifacts and future trends" , *Iranian Journal of Laser in Medicine*, 15(2): 1-29, 2007.
52. M.R.Ay, H.Ghadiri, P.Ghafarian, S.Sarkar, H,Zaidi, "The Influence of Energy Indexing Algorithm and Electron Sub steps on MCNP4C Electron Transport: Application in Monte Carlo Simulation of X-Ray Spectra in Diagnostic Radiology and Mammography", *IEEE Nuclear Science Symposium Conference Record*, P 4006-4011, 2007.
53. J.H.Bidgoli, M.R.Ay, S.Sarkar, A.Ahmadian, H,Zaidi, ,"Correction of oral contrast artifacts in CT-based attenuation correction of PET images using an automated segmentation algorithm" , *IEEE Nuclear Science Symposium Conference Record*, P 3542-3547 , 2007.
54. M. R. Ay, J. H. Bidgoli, S. Sarkar, A. R. Ahmadian "Automatic Segmentation of Oral Contrast Enhanced CT Images for Artifact Free Attenuation Correction in Pet/CT" *European Journal of Nuclear Medicine & Molecular Imaging*, Vol. 34, Oct. 2007.
55. H. R. Khosravi, S. Sarkar, A. Takavar, M. Saghari, M. Shahriari "Planar and SPECT Monte Carlo Acceleration Using a Variance Reduction Technique in I131 Imaging" *Iranian Journal of Radiation Research*, Vol 4, No 4, P. 175-182, 2007.
56. A.Shirkavand, S. Sarkar, M. Hejazi, L. Ataie-Fashtami, M. R. Alinaghizadeh "A New Monte Carlo Code Used for Absorption of Skin Tissue Interaction", *Chinese Optics Letters*, Vol. 5, No. 4,2007.
57. A. Shirkavand, S. Sarkar, M. Hejazi, L. Ataie, M. R. Alinaghizadeh "Evaluation of LITCIT Software for Thermal Simulation of Superficial Laser Like Hair Removal Lasers", *Indian Journal of Dermatology*, 52(3), 2007.
58. A. Mehrcay, M.Afsharpad, A.Ghobadi, M.Nahiyedin, Gh.Poormand, B.Ansari, S.Sarkar, B.Nikbeen , "Evaluation of LITCIT Software for Simulation of Laser Heat Propagation in Skin Surplus Hairs" , *Iranian Journal of Laser in Medicine*, 2007.
59. Sarkar, S. Oghabian, M. A. Mohammadi, I. Mohammadpour, A.Rahmim, A. "A Linogram/Sinogram Cross-Correlation Method for Motion Correction in Planar and SPECT Imaging" *IEEE Transactions on Nuclear Science*, Issue 1, Part 1, Pages 71-79, Feb. 2007.
60. Leila Moezi, Hamed Shafaroodi, S. Sarkar, Seyed Hasan Emami_Razavi, Mehdi Sanatkar, Naser Mirzai, Ahmad R. Dehpour "Involvement of Nitregeric and Opioidergic Systems in the

- Hypothermia Induced by Cholestasis in Rats" *Pathophysiology*. 2006 Dec;13(4):227-32. Epub 2006 Sep 11.
61. T.P. Faez, S. Sarkar "Simulation of Gamma Irradiation System for a Ballast Water Treatment" *Iranian Journal of Radiation Research*, Vol 4, No 2, 2006.
 62. B. Aghahadi, Z. Zhang, S. Zareh, S. Sarkar, P.S. Tayebi "Impact of Quality Control on Radiation Doses Received by Patient Undergoing Abdomen X-Ray Examination in Ten Hospital" *Iranian Journal of Radiation Research*, Vol 3, No 4, March 2006.
 63. Alinaghizadeh , S.Sarkar, " low-level laser therapy in management of postmastectomy lymphedema" , *laser Med. Sci*,2006.
 64. A.Shirkavand, S.Sarkar, L. Ataee , M. Hejhazi, M.Alinaghizadeh, " Response of T Cell Cytokines to Low Level He-Ne Laser Irradiation in Invitro: can Low Level Lasers Prevent Chronic Graft Rejection?" , *Journal of Laser in Medicine*, Vol4, No.4,2006.
 65. Vahid Changizi, Mohammad A. Oghabian, Robert Speller, Saeed Sarkar, Ali Arab Kheradmand "Application of Small Angle X-Ray Scattering (Saxs) for Differentiation Between Normal and Cancerous Breast Tissue" *Int. J. Med. Sci*. 2005.
 66. V. Changizi, M.A. Oghabian, S. Sarkar, R.D. Speller, A. Arab Kheradmand "Application of Small Angle X-Ray Scattering (Saxs) With Synchrotron Facility in Differentiation between Normal and Tumoral Breast Tissues" *Iran. J. Radiat. Res.*,2 (4): 205-210 2005.
 67. M. R. Ay, S. Sarkar, M. Shahriari, D. Sardari, H. Zaidi, "Assessment of Different Computational Models for Generation of X-Ray Spectra in Diagnostic Radiology and Mammography" *Med. Phy*, 32, 2005.
 68. Karimiyani, C. J. Thomson, S. Sarkar ,Raesali ,"Cybpet : Acylindrical Pet System for Breast Imaging", *Nuclear Instruments & Methods in Physics Research* , 545 , 2005.
 69. Kamali, S. Sarkar, M. Shahriari, H. Agha Hosaini "Slit Slat Collimator Optimization with Respect to MTF" *Applied Radiation and Isotopes* , 62 ,2005.
 70. M.R. Ay, M. Shahriari, S. Sarkar, H. Zaidi And M. Adib, "Monte Carlo Simulation of X-Ray Spectra in Diagnostic Radiology and Mammography Using MCNP4C", *Phys. Med. Biol*, 2004.
 71. Karimian, A., Thompson, C.J., Sarkar, S., Raisali, G., Pani, R., Davilu, H., Sardari, D., "A dedicated PET system for breast imaging (CYBPET) " , *IEEE Nuclear Science Symposium Conference Record* 4, pp. 2339-2341, 2004
 72. M.R. Ay , M. Shahriari, S. Sarkar, P. Ghafarian , "Measurement of Organ Dose in Abdomen - Pelvis CT Exam as a Function of mA , kV and Scanner..." , *Iranian Journal of Radiation Research* , 4/1 , 2004.

73. M. R. Ay, S. Sarkar, M. Shahriari, D. Sardari and H. Zaidi , " Comparative Assessment of Different Computational Models for Generation of X-Ray Spectra in Diagnostic Radiology and Mammography " , IEEE, 2004.
74. Sarkar, Nasrin Ahmadinedjad, S.Taghizadeh , " A Comparison of Mammography and Thermography Imaging Systems on Diagnosis of Breast Disease" , Iranian Journal of Medical Physics ,4-5, 2004.
75. M.R. Ay , M. Shahriari, S. Sarkar, P. Ghafarian, "Measurement of Organ Dose in Abdomen - Pelvis CT Exam as a Function of mA , kV and Scanner " , Iranian Journal of Radiation Research ,4\1, 2004.
76. M.Alinaghizadeh, S.Sarkar, MH. Miranbeygi , " Modeling of Nd-YAG Laser Absorption and Heat Distribution in Tissue Using Monte Carlo Technique " , Iranian Journal of Medical Physics, 1, 2003 .
77. A. Karimian, S. Sarkar, G. Raisali, H. Zaidei, " A new dedicated PET system for breast imaging " , European Journal of Nuclear Medicine and Molecular Imaging, 30, Supplement 2 , 2003 .
78. Oghabian M. A, Kaboli P, Sarkar S, "Surface Reconstruction of Defect Contours for Medical Image Registration Purpose" Iranian Journal of Nuclear Medicine No. 18, 2002.
79. Gh,Aziziyani, S.Sarkar, M.Abolhasani, " Three Dimensional Image Construction Using Two Dimensional Ultrasound Systems", Scientific Journal of Hamedan University of Medical Sciences, Vol 9, No2, 2002.
80. S.Sarkar, S.Taghizadeh, "Evaluation of Status of Radiography Sections: Radiation Protection and Image's Quality", Hakim Journal, Vol 5, No1, P23-30, 2002.
81. S.Sarkar, A,Abehesht, H,Firouzabadi, " Evaluation of source Distance and Scattering Medium on Gamma Camera's Image Contrast and Spatial Resolution", Iranian Journal of Nuclear Medicine, No 16-17, p 51-58, 2001-2002.
82. MJ.Abolhasani, A.Yousefi, S.Sarkar, "Designing of Infant's Health Monitoring System", Hakim Journal, Vol 4, No 4, P264-271, 2001.
83. S.Sarkar, M.Hedjazi, P.Kaboli," kVp Measurement of X-Ray Tubes by Using Penetrometer in Radiology Quality Assurance Programme", Hakim Journal , Vol 4, No 3, P168-172, 2001.
84. F,Farahmand, S.Sarkar, P.Kaboli, MJ.Abolhasani, MH.Sami," Designing and Modeling of Modular Hip Joint Prothesis " , Hakim Journal , Vol 4, No 1, P 59-68, 2001.
85. .Sarkar, M.Dehghanpoor, M.Saghari, M.Ghiyasinedjad, "Evaluation of Radiation Absorbed Dose by Family of The Patients Undergoing Iodine Therapy", Iranian Journal of Nuclear Medicine, Vol 14-15, P 45-54, 2000-2001.

Proceeding and Conference Records:

- 1- Hejazi, M. , Sarkar, S., Mohammadreza, H., Jahanfar, T., Karimi, M ,“Development and evaluation of a multislice fluorescence molecular tomography using finite element method”, Progress in Biomedical Optics and Imaging - Proceedings of SPIE,2013.
- 2- Hejazi, M.ab , Sarkar, S.ac, Mohammadreza, H.b, Jahanfar, T.b, Karimi, M. ,“Development and evaluation of a multislice fluorescence molecular tomography using finite element method”, European Conference on Biomedical Optics, ECBO 2013.
- 3- Sepideh Arbabi, S. M. Rezayat, S. Sarkar, L. Pezeshk, “Safety Challenges of Nanohealth Products in Iran: Regulatory Issues and Effectiveness”, ICT , Seoul, Korea, 2013.
- 4- M. R. Ay , H. Arabi, M. H. Farahani, N. Zeraatkar, S. Sarkar, S. Sajed, N. Naderi and P.Ghafaian, " SURGEOSIGHTTM: An Intraoperative Hand Held Gamma Camera for Precise Localization of Sentine Lymph Nodes" European Association of Nuclear Medicine Annual Congress, 27-31 October , Milan, Itly. Eur J Nucl Med Mol, S385,2012
- 5- M. R. Ay , H. Arabi, M. H. Farahani, N. Zeraatkar, S. Sarkar, S. Sajed, N. Naderi and P.Ghafaian, " Design and Development of a High Resolution Small Animal Imaging System for Mice and Rat " European Association of Nuclear Medicine Annual Congress, 27-31 ,Milan, Itly. Eur J Nucl Med Mol, S441.October 2012.
- 6- N. Zeraatkar, M. H. Farahani, H. Arabi, S. Sarkar, S. Sajedi, N. Naderi, P. Ghafarian, A.Rahmim and M.R. Ay, "An Innovative Rotation-Based Iterative Resolution Recovery for HiReSPECT™: a Dedicated Small Animal SPECT System" European Association of Nuclear Medicine Annual Congress, 27-31 Milan, Itly. Eur J Nucl Med Mol, S386- S387,October 2012,
- 7- N. Ghazanfari, M.R. Ay, S.Sarkar and G.Loudos " The influence of crystal material and size on the performance of partial-rotating dual head small animal PET scanners: Quantitative evaluation using Monte Carlo modeling " European Association of Nuclear Medicine Annual Congress, 27-31, Milan, Itly. Eur J Nucl Med Mol, S442, October 2012
- 8- N. Zeraatkar, M. H. Farahani, H. Arabi, S. Sarkar, S. Sajedi, A. Rahmim, and M. R. Ay, "Development of image reconstruction code with collimator-detector response function compensation for a preclinical SPECT scanner", Proc. Asia Oceania Congress of Nucl. Med. & Biology, vol. 20 (suppl. 1), p. 36, 2012.
- 9- H. Arabi, M. H. Farahani, N. Zeraatkar, S. Sarkar, S. Sajedi, A. Rahmim, P. Ghafarian and M.R. Ay, " High resolution small animal SPECT: HiReSPECT for preclinical imaging", Proc.Asia Oceania Congress of Nucl. Med. & Biology, vol. 20 (suppl. 1), p. 93, 2012.

- 10- N. Ghazanfari, M.R. Ay, S. Sarkar and G. Lodous " Assessment of the influence of crystal material and size on the performance of dual head small animal PET scanners" 3th International Congress of Nuclear Medicine, , pp 108, Tehran, Iran, 2011.
- 11- F. Adibpour, M.R. Ay, S. Sarkar and G. Lodous " Photon scatter and penetration in parallel hole collimator in preclinical Gamma Camera: A Monte Carlo study" 3th International Congress of Nuclear Medicine, , pp 147, Tehran, Iran, 2011.
- 12- E. Saeedzadeh, A. Abbaspour, S. Sarkar, M.R. Ay, H.R. Khosravi, "Accurate 3D Dosimetry for Internal Radiotherapy by Considering the Effect of Nonuniform Activity Distribution ", The International Congress of Nuclear Medicine, Mashhad, Iran, Iranian Journal of Nuclear Medicine, Vol. 18, Supp. 1, pp. 112. , 2010
- 13- F. Adibpour, M.R. Ay, S. Sarkar and G. Loudos "Performance Assessment and Optimization of Pixelated Gamma Camera with Small Field of View: A Monte Carlo Study ", The International Congress of Nuclear Medicine, Mashhad, Iran, Iranian Journal of Nuclear Medicine, Vol. 18, Supp. 1, pp. 116, 2010.
- 14- N. Ghazanfari, M.R. Ay, S. Sarkar and G. Loudos "Assessment of the Influence of Crystal Material and Size on the Sensitivity of Dual Head Small Animal PET Scanner", The International Congress of Nuclear Medicine, Mashhad, Iran, Iranian Journal of Nuclear Medicine, Vol. 18, Supp. 1, pp. 120, 2010.
- 15- N. Zeraatkar, M.R. Ay, S. Sarkar, A. Rahmim, P. Geramifar, " Quantification of Inter Crystal Scatter and Parallax Events in LYSO-Based Discovery RX PET/CT Scanner: A Monte Carlo Study", 2010, The 10th Congress of the World Federation of Nuclear Medicine and Biology (WFNMB 2010), Cape Town, South Africa, South Africa, World Journal of Nuclear Medicine, Vol. 9, Supp. 1, pp. S-158.Nominated as one of the best submitted abstracts2010.
- 16- Navid Zeraatkar, Mohammad R. Ay, Saeed Sarkar, Parham Geramifar, and Arman Rahmim,Quantitative Investigation of Inter-Crystal Scatter and Penetration in the GE Discovery RX PET/CT Scanner using Monte Carlo Simulations, 978-1-4244-9105-6/10/\$26.00 ©2010 IEEE 2403
http://pages.jh.edu/~rahmim/research_work/Zeraatkar_MIC10_ICS_Penetration_GE_Discovery_RX.pdf
- 17- E. Saeed Zadeh, S. Sarkar, A. Abbaspour, M.R. Ay, H. Khosravi, G. Lodus, "The Effect of Nonuniform Activity Distribution in Three-Dimensional Dosimetry for Internal Radiotherapy Mohammad Reza AY, PhD 2013 with 131I", 2010, The 10th Congress of the World Federation of Nuclear Medicine and Biology (WFNMB 2010), Cape Town, South Africa, South Africa, World Journal of Nuclear Medicine, Vol. 9, Supp. 1, pp. S-30 2010.
- 18- E. Saeed Zadeh, S. Sarkar, A. Abbaspour, M.R. Ay, H. Khosravi, G. Lodus, "Accurate 3DDosimetry for Internal Radiotherapy with 131I Using GATE Monte Carlo Code", 9th Iranian Congress of Medical Physics, pp 116Tehran, Iran, 2010.

- 19- Hamid Reza Khosravi (Nuclear Science and Technology Institute, Iran); Saeed Sarkar (Tehran University of Medical Sciences, Iran); Abass Takavar (Tehran University of Medical Sciences(TUMS)/Tehran University-Tehran-Iran, Iran); Mohammad Reza Deevband (National Radiation Protection Department, Iran); Hossein Khosravi (Tehran University of Medical Sciences, Iran) ,“Monte Carlo Simulations for I-131 imaging using a variance reduction technique”, Engineering World Congress - For the benefit of the Patient, 7-8 Sep 2009.
- 20- S. Lashkari, S. Sarkar, M.R. Ay and A. Rahmim, "The Effect of Crystal Size on Position Detection Accuracy in PET Block Detectors: A Monte Carlo Study", (2009) Poster presentation at the European Association of Nuclear Medicine Annual Congress, Barcelona, Spain. Eur J Nucl Med Mol Imaging, Vol 36, Suppl. 1, pp S409, 10-14 October 2009.
- 21- M.R.Ay, M. Shirmohammad, S. Sarkar, A. Rahmim, H. Zaidi " Implementation and comparison of different energy mapping approaches in CT-based attenuation correction of PET", International Congress of Nuclear Medicine and Molecular Imaging, Tabriz, Iran, 23- 25 September, 2009.
- 22- E. Saeedzadeh, S. Sarkar, A. Abbaspour Tehrani-Fard, M.R. Ay, H.R. Khosravi " Validation of the GATE Monte Carlo Code in Evaluation of Organ Doses Calculation in Zubal Voxelized Phantom ", International Congress of Nuclear Medicine and Molecular Imaging,Tabriz, Iran, pp. 50, 23-25 September, 2009.
- 23- S. Lashkari, S. Sarkar, M.R. Ay and A. Rahmim " The Influence of Crystal Depth on Position Detection Accuracy and Detection Efficiency in PET Block Detector: A Monte Carlo Study" (2008) Poster at the European Association of Nuclear Medicine Annual Congress, Munich, Germany. Eur J Nucl Med Mol Imaging, Vol 35, Suppl. 2, S337- 338, 11- 15 October 2008.
- 24- M. Shirmohammad, M.R. Ay, A. Rahmim A, S. Sarkar and H. Zaidi "A novel energy mapping method for attenuation map generation at 511 keV in computed tomography based attenuation correction" (2008) Oral presentation at the European Association of Nuclear Medicine Annual Congress, Germany, Munich. Eur J Nucl Med Mol Imaging, Vol 35, Suppl. 2, S146. Nominated as one of the best submitted abstracts , 11-15 October 2008.
- 25- A. Akbarzadeh A, M.R. Ay, H. Ghadiri, S. Sarkar and H. Zaidi "A novel approach for experimental measurement of scatter profile and scatter to primary ratio in a 64-slice CT scanner", 4th Kuala Lumpur International Conference on Biomedical Engineering, Kuala Lumpur, Malaysia, 25-28 June 2008.
- 26- S. Lashkari, S. Sarkar, M.R. Ay and A. Rahmim, "The Influence of Crystal Material on Intercrystal Scattering and the Parallax Effect in PET Block Detectors: A Monte Carlo Study", 4th Kuala Lumpur International Conference on Biomedical Engineering, Kuala Lumpur, Malaysia, 25-28 June 2008.

- 27- M. Shirmohammad, M.R. Ay, H. Ghadiri, S. Sarkar and A. Rahmim, "Comparative Assessment of Different Energy Mapping Methods for Generation of 511- keV Attenuation Map from CT Images in PET/CT Systems: A Phantom Study", 5th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Paradis, France, 644-647, 14-17 May , 2008.
- 28- P. Geramifar, M.R. Ay, M. Shamsayee, G. Lodous and A. Rahmim, "Monte Carlo Assessment of Time-of-Flight Benefits on The LYSO-Based Discovery RX PET/CT Scanner", 5th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Paradis, France, 364-367, 14-17 May, 2008.
- 29- A. Rahmim, M. Lodge, J. Tang, S. Lashkari and M.R. Ay, "Analytic System Matrix Resolution in PET: An Application to RB-82 Cardiac Imaging", 5th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Paradis, France, 1307-1310, 14-17 May, 2008.
- 30- M.R. Ay, H. Ghadiri, P. Ghafarian, S. Sarkar and H. Zaidi "Influence of energy indexing algorithm and electron substeps on MCNP4C electron transport: Application to simulation of x-ray spectra in diagnostic radiology and mammography" Proceedings of IEEE Nuclear Science Symposium & Medical Imaging Conference, Honolulu, Hawaii, Vol. 5, pp 4006-4011, 28 October – 3 November 2007.
- 31- M.R. Ay, J.H. Bidgoli, S. Sarkar and A. Ahmadian. "Automatic Segmentation of Oral Contrast Enhanced CT Images for Artifact Free Attenuation Correction in PET/CT", Oral presentation at the European Association of Nuclear Medicine Annual Congress, Copenhagen, Denmark. Eur J Nucl Med Mol Imaging, Vol 34, Suppl 2, S115, 13-19 October 2007.
- 32- J.H. Bidgoli, M.R. Ay, S. Sarkar, A. Ahmadian and H. Zaidi "Correction of correction of PET images using an automated segmentation algorithm" Proceedings of IEEE Nuclear Science Symposium & Medical Imaging Conference, Honolulu, Hawaii, Vol. 5, pp 3542-3547, 28 October – 3 November 2007.
- 33- P. Ghafarian, **M.R. Ay**, H. Ghadiri, S. Sarkar and H. Zaidi "Impact of x-ray tube voltage, field size and phantom thickness on scattered radiation in diagnostic radiology: A Monte Carlo investigation" Proceedings of IEEE Nuclear Science Symposium & Medical Imaging Conference, Honolulu, Hawaii, Vol. 5, pp 3830-3834, 28 October – 3 November 2007.
- 34- M.R. Ay, P. Ghafarian and H. Zaidi "A hybrid approach for fast simulation of x-ray computed tomography" Proceedings of IEEE Nuclear Science Symposium & Medical Imaging Conference, Honolulu, Hawaii, Vol. 4, pp 3155-3160, 28 October – 3 November 2007.
- 35- M.R. Ay and H. Zaidi. "Simulation-based assessment of the impact of contrast medium on CT-based attenuation correction in PET", Proceedings of IEEE Nuclear Science Symposium & Medical Imaging Conference. San Diego, USA, Vol. 5; pp. 2731-2735, 29 October - 4 November 2006. *Recipient of 2006 IEEE Medical Imaging Conference Award*
- 36- H. Zaidi and M.R. Ay "Impact of x-ray scatter when using CT-based attenuation correction in PET: A Monte Carlo investigation" Proceedings of IEEE Nuclear Science Symposium &

Medical Imaging Conference, San Diego, USA, Vol. 4; *pp.* 2161-2165, 29 October - 4 November 2006.

- 37- H. Ghadiri and M.R. Ay. "A Novel Hybrid Approach for Measurement of Bone Mineral Density and Content with High Signal to Noise Ratio", Proceedings of World Congress on Medical physics and Biomedical Engineerin, Seoul, Kore, *pp.* 1324-1327, August 27 – September 1, 2006.
- 38- M.R. Ay, S. Sarkar, M. Shahriari, D. Sardari, and H. Zaidi. "MCNP4C-based Monte Carlo simulator for fan- and cone-beam x-ray CT: development and experimental validation". Proceedings of 14th International Conference of Medical Physics. Biomedizinische Technik. 2005. Nuremberg, Germany, 50 Suppl Part 1: *pp.* 360-361, Sept. 14-17, 2005.
- 39- M.R. Ay, S. Sarkar, M. Shahriari, D. Sardari, and H. Zaidi."Comparative assessment of different computational models for generation of x-ray spectra in diagnostic radiology and mammography". Proceedings of IEEE Nuclear Science Symposium & Medical Imaging Conference. Rome, Italy. 4: *pp.* 4190-41942004. Oct. 19-22.

Patents

- 2018 NAVIGATING AN IMAGING INSTRUMENT IN A BRANCHED STRUCTURE
- Inventors: Samaneh Saghatchi, Javad Hasani bidgoli, Mohammad Jalal Sadeghi, Alireza Ahmadian, Farzam Farahmand, Saeed Sarkar
 - Application Number: 15/986,724
 - Submitted in: USA
- 2018 SINGLE PHOTON EMISSION COMPUTED TOMOGRAPHY IMAGING WITH A SPINNING PARALLEL- SLAT COLLIMATOR
- Inventors: Hojjat Mahani, Mohammad Reza Ay, Saeed Sarkar, Mohammad Hossein Farahani
 - Application Number: 15/920,426
 - Submitted in: USA
- 2018 LOCATION TRACKING ON A SURFACE
- Inventors: Saeed Alikhani, Hasani bidgoli, Mohammad Jalal Sadeghi, Alireza Ahmadian, Farzam Farahmand, Saeed Sarkar
 - Application Number: 15/894,459
 - Submitted in: USA
- 2018 DEVICE FOR BRAIN BIOPSY
- Inventors: Javad Hasani bidgoli, Amirhossein Ahmadian, Mohammad Jalal Sadeghi, Alireza Ahmadian, Farzam Farahmand, Saeed Sarkar
 - Application Number: 15/854,442
 - Submitted in: USA
- 2018 ROBOTIC GUIDE FOR BRAIN BIOPSY
- Inventors: Mohammad Akbar, Seyed Mohammad Javad Mortazavi Ashkezari, Javad Hasani bidgoli, Amirhossein Ahmadian, Mohammad Jalal Sadeghi, Alireza Ahmadian, Farzam Farahmand, Saeed Sarkar
 - Application Number: 15/829,791
 - Submitted in: USA
- 2018 POSITRON RANGE REDUCTION IN POSITRON EMISSION TOMOGRAPHY IMAGING
- Inventors: Hojjat Mahanim, Mustafa Abbasi, Mohammad Reza Ay, Saeed Sarkar, Mohammad Hossein Farahani
 - Application Number: 15/847,809
 - Submitted in: USA

- 2018 PEAK DETECTION IN A TWO DIMENSIONAL IMAGE
- Inventors: Navid Zeraatkar, Sajedi Toighoun, Taheri Parkoohi, Mohammad Reza Ay, Mohammad Hossein Farahani, Saeed Sarkar
 - Application Number: 15/829,808
 - Submitted in: USA
- 2018 METHODS AND BIOSENSORS FOR TUMOR DETECTION
- Inventors: Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar,
 - Application Number: US 15/818, 767
 - Submitted in: USA
- 2017 COMPACT CARDIAC SPECT SCANNER WITH SPINNING PARALLEL-SLAT COLLIMATOR
- Inventors: Hojjat Mahanim, Mohammad Reza Ay, Saeed Sarkar, Mohammad Hossein Farahani
 - Application Number: 62/470,363
 - Submitted in: USA
- 2017 ELECTROCHEMICAL CHLORINE GAS SENSOR AND FABRICATION THEREOF,
- Inventors: Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar,
 - Application Number: US 62/375,910
 - Submitted in:USA
- 2017 FABRICATION OF SMALL AND COST-EFFECTIVE NANOROD-SHAPED MOTOR AND APPLICATIONS THEREOF FOR SENSING VEGF₁₆₅ TUMOR MARKER,
- Inventors: Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar,
 - Application Number: US 62/475,827
 - Submitted in:USA
- 2017 FABRICATION OF SMALL AND COST-EFFECTIVE NANOROD-SHAPED MOTOR AND APPLICATIONS THEREOF FOR THE SURFACE WRITING,
- Inventors: Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar,
 - Application Number: US 62/475,830
 - Submitted in:USA
- 2017 FABRICATION OF SMALL AND COST-EFFECTIVE NANOROD-SHAPED MOTOR AND APPLICATIONS THEREOF FOR DECONTAMINATION OF PARAOXON-METHYL,
- Inventors: Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar,
 - Application Number: US 62/475,829
 - Submitted in:USA

- 2016 REDUCTION OF POSITRON RANGE IN HIGH-RESOLUTION PET IMAGING
- Inventors: Hojjat Mahanim, Mustafa Abbasi, Mohammad Reza Ay, Saeed Sarkar, Mohammad Hossein Farahani
 - Application Number: 62/435,877
 - Submitted in: USA
- 2016 AUTOMATIC 2D PEAK DETECTION FOR CALIBRATION OF GAMMA DETECTOR BLOCK IMAGES
- Inventors: Navid Zeraatkar, Salar Sajedi Toighoun, Mohsen Taheri Parkoohi, Mohammad Reza Ay, Mohammad Hossein Farahani, Saeed Sarkar
 - Application Number: 62/429,763
 - Submitted in: USA
- 2016 ROBOTIC SYSTEM FOR SPECT IMAGING
- Inventors: Mohammad Reza Ay, Mohammad Hossein Farahani, Saeed Sarkar, Behnoosh Teimourian Fard, Salar Sajedi Toighoun, Sanaz Kaviani
 - Application Number: 15/099,015
 - Submitted in: USA
- 2016 ELECTROCHEMICAL CHLORINE GAS SENSOR AND FABRICATION THEREOF,
- Inventors: Mahmoud Amouzadeh Tabrizi, Mojtaba Shamsipur, Reza Saber, Saeed Sarkar,
 - Application Number: US 62/375,910
 - Submitted in:USA
- 2016 Desktop open-gantry spect imaging system
- Inventors: Navid Zeraatkar, Mohammad Hossein Farahani, Mohammad Reza Ay, Saeed Sarkar
 - Application Number: US 20160116604 A1
 - Submitted in:USA
 - <http://www.freshpatents.com/-dt20160428ptan20160116604>.
- 2015 Fluorescence molecular tomography system for small animal imaging
- Sedigheh Marjaneh Hejazi, Mohammad Ali Oghabian, Reza Massoudi, Hanieh Mohammadreza, Saeed Sarkar,
 - Application Number: USD743554 S1
 - Submitted in: Europe, Iran.
 - https://www.lens.org/images/patent/US/D743554/S1/US_D743554_S1.pdf
- 2013 Electro spun nanofibrous wound dressing and a method of synthesizing the same.
- Mirzaei, Esmaeil, Majidi, Reza Faridi, Sarkar, Saeed, Rezayat, Seyed Mehdi.
 - Application Number:US9101508, US 20130150763 A1
 - Submitted in:USA
 - https://www.lens.org/images/patent/US/9101508/B2/US_9101508_B2.pdf

- 2013 Electro spun nanofibrous wound dressing and a method of synthesizing the same.
- Mirzaei, Esmaeil, Majidi, Reza Faridi, Sarkar, Saeed, Rezayat, Seyed Mehdi.
 - Application Number: US 20130150763 A1
 - Submitted in:USA
- 2013 Nonlinear recursive filter for medical image processing
- Inventors: Mohammad Hossein Farahani, Salar Sajedi Toighoun, Mohammad Reza Ay, Saeed Sarkar
 - Patent application number: US 8503748 B2(2013), US 20120027274 A1(2012),
 - Submitted in: USA
 - <https://www.google.com/patents/US8503748>
 - <https://www.google.com/patents/US20120027274>
- 2013 Western Blot Kit for Detection of Vaccinated Poultryaanm
- Inventors: Rasool Madani, Seyed Mahdi Rezayat, Saeed Sarkar, Tara Emami
 - Patent application number: US20130017536 A1
 - Submitted in: USA
 - <http://www.google.com/patents/US20130017536>
- 2013 A western blot kit for detection of vaccinated poultry
- Inventors: Rasool Madani, Seyed Mahdi Rezayat,Saeed Sarkar, Tara Emami
 - Patent application number: WO2012052047 A1
 - Europe
 - <http://www.google.com/patents/WO2012052047A1>
- 2013 Electro Spun Nanofibrous Wound Dressing And A Method Of Synthesizing The Same
- Inventors: Esmaeil Mirzaei, Reza Faridi Majidi, Saeed Sarkar, Seyed Mehdi Rezayat
 - Patent application number: US20130150763
 - Submitted in: USA
 - <http://www.google.com/patents/US20130150763>
- 2012 Platform connector
- Inventors: Reza Saber, Saeed Sarkar
 - Patent application number: US D659639 S1
 - Submitted in: USA
 - https://www.lens.org/images/patent/US/D659639/S1/US_D659639_S1.pdf
- 2012 Conducting tip connector
- Inventors: Reza Saber, Saeed Sarkar
 - Patent application number: USD664929 S1
 - Submitted in: USA
 - https://www.lens.org/images/patent/US/D664929/S1/US_D664929_S1.pdf

- 2012 NONLINEAR RECURSIVE FILTER FOR MEDICAL IMAGE PROCESSING
- Inventors: Mohammad Hossein Farahani, Salar Sajedi Toighoun, Mohammad Reza Ay, Saeed Sarkar
 - Application Number: 13/196,664
 - Submitted in: USA
- 2012 A western blot kit for detection of vaccinated poultry
- Inventors: Tara Emami, Rasool Madani, Seyed Mahdi Rezayat, Saeed Sarkar
 - Patent application number: US20130017536, WO2012052047 A1
 - Submitted in: USA, Europe
 - <http://www.google.com/patents/US20130017536>
- 2011 Water soluble compounds
- Inventors: Saeed Sarkar, Seyed Mahdi Rezayat, Anatoly Leonidovich Buchachenko, Dmitry Anatolevich Kuznetsov, Marina Alexeyevna Orlova, Marina Abramovna Yurovskaya, Igor Viktorovich Trushkov
 - Patent application number: US7879996 B2
 - Submitted in: USA
 - https://www.lens.org/images/patent/US/7879996/B2/US_7879996_B2.pdf
- 2011 Electro spun nanofibrous wound dressing and a method of synthesizing the same
- Inventors: Esmaeil Mirzaei, Reza Faridi Majidi, Saeed Sarkar, Seyed Mehdi Rezayat
 - Patent application number: US 9101508 B2, US 20130150763 A1
 - Submitted in: USA
 - <https://www.google.com/patents/US20130150763>
 - <https://www.google.com/patents/US9101508>
- 2011 2-([60] Fullerene [1',9':3,4] Cyclohexen-1-Y1)-5,10,15,20-(Tetra Magnesium [(4-(N-(4-Carboxy Butyl) Amino) Phenyl 2,3-Dicarboxylate)]) Porphyrin Iron (II); Prepared By Linking A Fullerene To A Porphyrin Compound, Preferably With Electromagnetic Or Sonic Waves
- Inventors: Saeed Sarkar, Seyed Mahdi Rezayat, Anatoly Leonidovich Buchachenko, Dmitry Anatolevich Kuznetsov, Marina Alexeyevna Orlova, Marina Abramovna Yurovskaya, Igor Viktorovich Trushkov,
 - Patent application number: US7879996 B2
 - Submitted in: USA
- 2011 Piezomotor Connector
- Inventors: Reza Saber, Saeed Sarkar
 - Patent application number: US D639737 S1, US 29/377,634
 - Submitted in: USA
 - https://www.lens.org/images/patent/US/D639737/S1/US_D639737_S1.pdf

- 2008 Use Of A Magnesium Isotope For Treating Hypoxia And A Medicament Comprising The Same
- Inventors: Saeed Sarkar, Seyed Mahdi Rezayat, Anatoly Leonidovich Buchachenko, Dmitry Anatolevich Kuznetsov, Marina Alexeyevna Orlova, Marina Abramovna Yurovskaya, Igor Viktorovich Trushkov
 - Patent application number: US 20080317876 A1, EP 1992339 A1, CN 101310721 A,
 - Submitted in: USA, Europe, China, India
 - <https://www.google.com/patents/EP1992339A1?cl=en&dq=ininventor:%22Saeed+Sarkar%22&hl=en&sa=X&ved=0ahUKEwjpxOrooLjMAhULM8AKHYXvBE8Q6AEIXjAJ>
- 2008 New Water Soluble Porphylleren Compounds
- Inventors: Saeed Sarkar, Seyed Mahdi Rezayat, Anatoly Leonidovich Buchachenko, Dmitry Anatolevich Kuznetsov, Marina Alexeyevna Orlova, Marina Abramovna Yurovskaya, Igor Viktorovich Trushkov
 - Patent application number: US 20080319187 A1, EP1992627A1, CN101307055A
 - Submitted in: USA, Europe, China, India
- 2007 STM
- Inventors: Reza Saber, Saeed Sarkar
 - Patent application number:
 - Submitted in: Iran
- 2004 Industrial CT scanner
- Inventors: Saeed Sarkar
 - Patent application number:
 - Submitted in: Iran

Awards:

- 2015, The 21th Razi Research Festival on Medical Sciences, Selected second inventors.
- 2014, The 19th Razi Research Festival on Medical Sciences, Selected Project.
- 2013, The 27th Kharazmi international Festival, Third place Applied Research.
- 2011, The 17th Razi Research Festival on Medical Sciences. Designated growth centers.
- 2010, The 16th Razi Research Festival on Medical Sciences. Designated growth centers.
- 2009, The 11th Young Kharazmi Festival, First Place.
- 2008, The Third Top of Nano Festival, First Place.
- 2008, The Sheikh Bahai Festival, First Place Entrepreneurs Emerging Technologies.
- 2006, The 12th Razi Research Festival on Medical Sciences.
- 2003, The sixth Festival of Avesina, Second Place.

As keynote speaker & Invited Speaker:

- 2008, Knowledge Based Industries & Nano technology, Towards Development Arab Economies driven by knowledge based industries, Doha, Qatar.
- 2009, 1st ICPC Nanonet, Prague, Czech Republic.
- 2010, 3rd International Conference on Nanostructures, Kish Island, Iran.
- 2010, International Seminar on Nano-materials in Energy and Environment, Damascus, Syria.
- 2011, The 1st MEFOMP International Conference of Medical Physics, Shiraz, Iran.
- 2012, 1st Iran Nano Forum 2012 (INF2012), Tehran, Iran.
- 2012, 8th World Islamic Economic Forum's (WIEF), Johor Bahru Malaysia.
- 2013, Emerging Ethical Issues in Science and Technology, Follow-Up Conference to the 8th Ordinary Session of UNESCO's World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), Bratislava, Slovakia.
- 2014, IFNE 2014: International forum on Nanotechnology Economy, Tehran, Iran.
- 2014, The Seventh International Nanotechnology Festival, Iran Nano 2014, Tehran, Iran.
- 2014, CHInano 2nd International Roundtable on Nanotechnology, Suzhou, China.
- 2014, Nano Korea Symposium, Korea.
- 2014, nanoSUR Forum, Caracas, Venezuela.
- 2016, "Opening Ceremony", Science and Technology Exchange Program (STEP) in Islamic Countries, December 2016 University Putra Malaysia.
- 2016, "A Glance at Nanoscience and Nanotechnology Status in Islamic Countries", Science and Technology Exchange Program (STEP) in Islamic Countries, December 2016 University Putra Malaysia.

Book Chapters

- 1- S.Sarkar, "Medical Physics", in Comprehensive book on biomedical engineering, ultrasound physics, Radiology, Nuclear Medicine , radiation protection; M.J.Abolhasani, M.T.Bahreyni Toosi, , A.A.Sharif, M.A.Oghabian, 2006, Mehr o Mahe No Publisher: Tehran, Iran. Vol.5
- 2- S.Sarkar, "Nanotechnology" , in Comprehensive book on medical and engineering; M.Mehdikhani, M.Sahba Yaghmaee,2006, Khaje Nasir Publisher: Tehran, Iran.

National Research Success

Research director and manager of the following product oriented projects:

Design and Construction of:

- Intelligent Surgical Navigation System
- Scanning Tunneling Microscope (STM)"
- Atomic Force Microscope (AFM)
- Hand held Gamma Camera
- Animal Single Photon Emission Computed Tomography (Animal SPECT)
- Florescent Molecular Tomography using Quantum dots

Editorial Board

2000 till now	ACTA Medica Iranica Journal,
2002 till now	Iranian Journal of Medical Physics
2002 till now	Iranian Journal of Radiation Research
2002 till now	Iranian Journal of Nuclear Medicine
2002 -2010	Iranian Journal of Radiology
2002 -2010	ACTA Medica Iranica journal
2012 till now	Journal of Frontiers in Biomedical Technologies (FBT)

Membership in various institutions & scientific societies

Professor Saeed Sarkar, PhD 2019

- Academic member of high council for educational programming in Ministry of Science and Technology since 2010
- Founder and Member of Board, Iranian Association of Nanotechnology, 2005 till now
- Board Member of Nanotechnology, Ministry of Health and Medical Education, 2007 till now
- Member of board of trustees, Kashan University of Medical Sciences, since 2008