

دکتر احمد اسماعیلی ترشابی



احمد اسماعیلی ترشابی

دکترای مهندسی پرتوپزشکی (تخصص: پرتودرمانی، یون درمانی،
آشکارسازی و دزیمتری)

دانشیار گروه مهندسی هسته ای

دانشکده علوم و فناوریهای نوین

دانشگاه تحصیلات تکمیلی صنعتی و فناوری پیشرفته

تاریخ تولد: دهم فروردین ۱۳۵۸، رفسنجان، کرمان

آدرس: انتهای اتوبان هفت باغ علوی، پردیس دانش ماهان،

دانشگاه تحصیلات تکمیلی صنعتی و فناوری پیشرفته

موبایل:

۰۹۱۳۵۰۰۹۴۲۲ و ۰۹۳۸۶۷۳۰۲۲۳

ایمیل آکادمیک:

a.esmaili@kgut.ac.ir

جیمیل:

ahmad4958@gmail.com

تخصص زبانی

Linguistic proficiency: Persian (mother tongue)

English (Excellent)

French (Intermediate)

Italian (Basic)

آموزش

دکتر (مهندسی هسته ای - پرتویزشکی)

۲۰۰۶-۲۰۰۹

Tohoku University, Sendai, Japan

Cyclotron and Radioisotope Center (CYRIC)

Department of Quantum Science and Energy
Engineering, Graduate School of Engineering,

Thesis: “*Development an Adjustable Beam Flattening System for Proton Therapy*”

Advanced university studies

- Routine QC tests on Proton Beam and monitoring,
- Dose delivery systems,
- Voxel Based Simulations on 3D dose distribution,
- Collaboration with small animal PET group,

Degree: PhD

کارشناسی ارشد (مهندسی هسته ای-پرتویزشکی)

۲۰۰۳-۲۰۰۶

Shiraz University, Shiraz, Iran

Master of Science at Medical Radiation Engineering,
Faculty of Engineering,

Thesis: *“Design and Implementation of a Code to provide MCNP ۴C Geometry Input File from Tomography Images Using MATLAB Software.”*

Lectures (Passed): *The Principles of Radiotherapy, Medical Imaging Systems, Health Physics, Radiation Measurements and Detection, Radiation Shielding at Medicine, Radiation Detector Labs.*

Degree: MSc

کارشناسی (مهندسی برق-الکترونیک)

۱۹۹۸-۲۰۰۳

Shahid Bahonar University of Kerman, Iran

Bachelor at Electronics Engineering, Faculty of Engineering,

Lectures (Passed): *Mathematics and Physics, Electromagnetic, Electrical circuits and Electronics, Power Electrical Machines, Controls and Communication Circuits, Technique Pulse, Electronics Labs.,*

Degree: BS

۱۹۹۳-۱۹۹۷

Ansari High School, Rafsanjan, Iran

High school

Major Subject: Mathematics and Physics

تجربه کاری و آموزشی

۲۰۰۹-۲۰۱۲

Centro Nazionale di Adroterapia

Oncologica, (Fondazione CNAO), Pavia Italy

Clinical Bioengineering Unit at Fondazione CNAO,

Marie Curie Fellow of *PART*icle Training Network for European radiotherapy, PARTNER Project (۱۰۰٪)

Project Title: *“Inter- & Intra Fractional Tumor Motion Error Compensation Strategies at SBRT”*

Research:

- Performance of Patient Positioning System (PPS), Patient Verification System (PVS) and Optical Tracking System (OTS) at Treatment Rooms of CNAO center
- 4D Monte Carlo Dose Distribution Simulation by FLUKA
- Tumor motion management at precise RT

۲۰۱۲-۲۰۲۳

Graduate University of Advanced Technology,

Kerman Iran (Associate Professor ۲۰۲۲-۲۰۲۳,

Assistant Professor ۲۰۱۲-۲۰۲۲)

Medical Radiation Section, Faculty of Sciences and Modern Technologies,

Lecturer of (for MSc and PhD students):

- The Principles of Radiotherapy (with focus on PT),
- Medical Imaging Systems,

- Health Physics,
- Radiobiology
- Radiation Measurements and Detection
- Radiation Shielding at Medicine,
- Charged Particles Accelerators,
- Seminar,

Supervisor of more than ۳۰ MSc Theses mainly at:

- Different ions species at hadron therapy,
 - Beam delivery strategies at proton therapy,
 - Range assessment at proton therapy using PET
 - Tumor motion error compensation strategies at RT,
 - Developing various correlation models at SBRT,
 - Motion behavior of thorax tumors and data optimization,
 - Internal-external markers effect at RT,
 - 4D simulation of motion effect on dose distribution,
 - Patient setup and positioning issues at RT,
 - Dosimetry impact of Bladder/rectum at prostate PT
 - Image processing and registration applicable at RT,
 - Cardiac arrhythmia treatment using RT
 - The effect of various X-ray Filters at DSCT
 - Simulation of Boron impact at BNCT of Brain Tumor
 - Micro-dosimetry simulation of semiconductor detector
 - Nano-particle based interface for scintillation detectors
 - Gamma-ray densitometer for petroleum products
 - Natural Environmental dosimetry on soil sample
- ❖ ۱۴ **articles: Published, from MSc theses**
- ❖ ۱ **articles: Accepted, In-Press, from MSc thesis**
- ❖ ۳ **articles: Under-revision, from MSc theses**
- ❖ ۱ **article: Submitted, from MSc thesis**

Head of Medical Radiation section (۲ yrs.):

- Students Lectures & laboratories arrangement,
- MSc theses defenses, Seminars and journal club Monitoring
- Attending at routine meetings for taking financial supports

Head of Virtual Education Group of University (۳,۵ yrs.):

- E-Learning management of University
- Workshops arrangement for industries and factories

- Workshops arrangement for students and lecturers

Head of University Health Physics (۲ yrs.)

- Monitoring of all ionizing radiation sources at University
- Providing radiation-based instructions
- Monitoring the duties of persons involved in irradiations
- Routine environmental dosimetry,
- Recording dose of persons involved in radiation by TLD-based personnel dosimetry
- Implementing radiation protection instructions
- Organizing radiation protection workshops

Member of Scientific cooperation and International affairs of University (۱ yr.)

- Updating the instruction of University International affairs
- Promoting scientific cooperation with abroad universities

۲۰۱۲-۲۰۱۴

Kerman University of Medical Sciences, Kerman Iran

*Radiology Division, faculty of Paramedical Sciences,
Radiotherapy & Oncology Center, Shafaa Hospital*

Visiting Lecturer of (undergraduate students):

- The Physics of Diagnostic Radiology,
- Computed Tomography,
- The Principles of Ultrasound Based Imaging Systems,
- Radiation Dosimetry
- Quality Control and Quality Assurance of Medical Imaging Systems

۱.۲۰۱۴-۵.۲۰۱۴

Bahonar University of Kerman, Kerman Iran Faculty of Physics,

Visiting Lecturer of (PhD students):

- Charge Particles accelerators

۲۰۱۲-۲۰۱۳

Technical and Vocational Training Organization
(TVTO), Iran

TVTO Unit of Bardsir, Kerman Iran

Visiting Lecturer of (TVTO Trainees):

- Basic Physics
- Physics of Electricity
- Electrical Circuits

۲۰۰۵-۲۰۰۶

Rafsanjan University of Medical Sciences,
Kerman Iran,

*Radiology Division, faculty of Paramedical Sciences
Faculty of Dentistry*

Visiting Lecturer of (Undergraduate Students):

- Laboratory of Basic Physics

Research on:

- Collaborating with PhD thesis of dentistry student on: "Face skin dosimetry at dental radiography using TLD".

۵,۲۰۰۲-۹,۲۰۰۲

Sarcheshmeh Copper Complex, Iran

Instrumentation Unit.

Trainee

- Calibration measurement devices
- QC routine tests
- Design and repair of electrical control circuits

افتخارات

- ۲۰۲۲ Top Lecturer of Graduate University of Advanced Technology, Kerman Iran (With formal certified)
- ۲۰۲۲ Top Researcher of Faculty of Sciences and Modern Technologies at Graduate University of Advanced Technology, Kerman Iran (With formal certified)

گرنٹ و بورسیہ

- ۲۰۰۶-۲۰۰۹ Ph.D. Monbukagakusho Governmental Scholarship, Tohoku University, Japan
- ۲۰۰۹-۲۰۱۲ EU Marie Curie fellowship, PARTNER Project of CERN, Fondazione CNAO, Italy
- ۲۰۱۲-۲۰۲۲ Research grants, Graduate University of Advanced Technology, Iran

عضویت

- **Technical Program Committee (TPC)** member of *International Conference on Biomedical Engineering and Biotechnology* [<http://www.icbeb.org/TPC>]
- **Official Reviewer** at *Iranian Journal of Medical Physics (IJMP)*-SINCE ۲۰۱۴
- **Official Reviewer** of *International Conference on Biomedical Engineering and Biotechnology (ICBEB)*- SINCE ۲۰۱۷

- **Reviewer** at *Multi-disciplinary Cancer Investigation* (MCI)
- **Reviewer** at *Journal of Biomedical Research* (JBR)
- **Reviewer** at *Journal of Frontiers at Biomedical Technologies* (FBT)
- **Reviewer** at *Journal of Applied Sciences* (Appl. Sci.)
- **Reviewer** at *Journal of Diagnostics* (Diag.)
- **Reviewer** at *Technology in Cancer Research and Treatment Journal* (TCRT)
- **Reviewer** at *International Journal of Radiology and Imaging Technology* (IJRIT)
- **Reviewer** at *International Journal of Radiation Oncology Biology Physics* (IJROBP)
- **Reviewer** at *Medical and Biological Engineering and Computing* (MBEC)

مهارتهای برنامه نویسی

- Proficient at: MATLAB software package
- Proficient at: Monte Carlo FLUKA Simulation code
- Experienced at: Micro-dosimetry simulations
- Experienced at: LABVIEW software package
- Familiar with: FORTRAN code
- Proficient at: medical images Processing, Registration and Monitoring softwares

مهارتهای شخصی و عملی

- Experienced to teach the scientific concepts and manage the class **as Lecturer**
- Experienced to manage scientific proposals and supervising the students theses or projects **as Mentor**

- Experienced to challenge with scientific updating projects **as individual or team-involved Researcher**
- Proficient to find proper solution for possible issue at critical conditions **as Problem Solver**
- Experienced in contact with different persons, students or staffs **as Communicator**
- Familiar with using mechanical and electrical machines for repairing, modulating or constructing passive or active devices at laboratory or facility **as Technician**

همکاریها

- My connections with PARTNER (Particle Training Network for European Radiotherapy) Members at the Worldwide in the follow (Proton Therapy facilities & Univs.)

بقیه موارد

- **Hobbies**: Sport, playing volleyball, reading historical books & watching movies

مقالات، کنفرانسها و کتب

Publications:

A. Esmaili Torshabi, Andrea Pella, Marco Riboldi and Guido Baroni, "Targeting Accuracy in Real-Time Tumor Tracking via External Surrogates: a Comparative Study," *Technology in Cancer Research and Treatment*; vol. 9(6), pp. 551-562, Dec. 2010

A. Esmaili Torshabi, "Investigation of the Robustness of Adaptive Neuro-Fuzzy Inference System for Tracking Moving Tumors in External Radiotherapy" *Australasian Physical & Engineering Sciences in Medicine*, vol. 37(4), pp. 771-778, Nov. 2014

A. Esmaili Torshabi, "Investigation of Tumor Motion Influence on Applied Dose Distribution in Conventional Proton Therapy vs. IMPT; a 4D Monte Carlo simulation Study " *International Journal of Radiation Research*, vol. 11(4), pp. 225-231, Oct. 2013

A. Esmaili Torshabi, Marco Riboldi, Abbasali Imani Fooladi, Seyed Mehdi Modarres and Guido Baroni., "An adaptive fuzzy prediction model for real time tumor tracking in radiotherapy via external surrogates," *Journal of Applied Clinical Medical Physics*; vol. 14, pp. 102-114, 2013

A. Esmaili Torshabi, Atsuki Terakawa, Keizo Ishii, et al., "Development of an Adjustable Beam Flattening System for modification of Passive Beam Delivery in Proton therapy," *Nuclear Instruments and Methods in Physics Research, Section A*, vol. 615, pp. 138-141, March 2010

A. Esmaili Torshabi, A. Terakawa, K. Ishii, et al., "A fundamental study on beam flattening based on compact double scatterer applicable to rotational beam irradiation system in the Proton therapy facility at CYRIC, Tohoku University," proceeding of ISORD-^o conf. *Prog. Nucl. Sci. Technol.*, vol. ۱, pp. ۵۰۹-۵۱۲, Kyushu Japan, July ۱۵-۱۷, ۲۰۰۹

A. Esmaili Torshabi, L. Ghorbanzadeh, "A study on stereoscopic X-ray imaging dataset on the accuracy of real time tumor tracking at external surrogates radiotherapy" *Technology in Cancer Research & Treatment*, vol. ۱۶(۲), pp. ۱۶۷-۱۷۷, Apr. ۲۰۱۷

A. Esmaili Torshabi, "Investigation the efficacy of fuzzy logic implementation at image-guided radiotherapy" *Journal of Medical Signals & Sensors*, vol. ۱۲(۲), pp. ۱۶۳-۱۷۰, ۲۰۲۲

L. Ghorbanzadeh, **A. Esmaili Torshabi**, J. Soltani Nabipour, M. Ahmadi Arbatan, "Development of a Synthetic Adaptive Neuro-fuzzy Prediction Model for Tumor Motion Tracking in External Radiotherapy by Evaluating Various Data Clustering Algorithms" *Technology in Cancer Research and Treatment*; vol. ۱۵(۲), pp. ۳۳۴-۳۴۷, ۲۰۱۶ [\[Extracted from MSc thesis\]](#)

A. Esmaili Torshabi, M. Taghipour, "The perturbation effect of fiducial marker on ۳D dose distribution at external surrogate's radiotherapy" *Iranian Journal of Medical Physics* vol. ۱۸(۲), pp. ۹۶-۱۰۵, ۲۰۲۱ [\[Extracted from MSc thesis\]](#)

G. Barzgarneghad, **A. Esmaili Torshabi**, "The response of CZT compound semi-conductor detector against gamma photons by efficiency calculation; a micro dosimetry simulation study" *Iranian Journal of Medical Physics*, Vol. ۱۷(۶), pp. ۳۵۹-۳۶۵, Nov. ۲۰۲۰ [\[Extracted from MSc thesis\]](#)

S.A. Dastyar, **A. Esmaili Torshabi**, “Investigating motion data selections based on patient-specific respiration pattern at external surrogates radiotherapy” *Iranian Journal of Medical Physics* (Submitted at June ۲۰۲۳, Under-revision) [[Extracted from MSc thesis](#)]

M.A. Bijari, **A. Esmaili Torshabi**, “Chest Wall Motion Tracking By Contactless Optical Camera-Based Method Using Virtual Markers” *Iranian Journal of Medical Physics* (Submitted at June ۲۰۲۳, Under-revision) [[Extracted from MSc thesis](#)]

S. Nankali, **A. Esmaili Torshabi**, P. Samadi Miyandoab, A feasibility study on ribs as anatomical landmarks for motion tracking of lung and liver tumors at external beam radiotherapy, *Technology in Cancer Research and Treatment*, vol. ۱۶(۱), pp. ۹۹-۱۱۱, Feb. ۲۰۱۷ [[Extracted from MSc thesis](#)]

Z. Pedrami, **A. Esmaili Torshabi**, M.A. Bijari, A. Negarestani, Y. Hamidi, A feasibility study on gamma-ray densitometer utilization for petroleum products density measurement at Shahid Ahmadi-Roshan petroleum storage in Kerman Province, Iran (submitted to *Radiation Physics and Engineering*, Aug., ۲۰۲۳) [[Extracted from MSc thesis](#)]

S. Nankali, **A. Esmaili Torshabi**, P. Samadi Miandoab, A. Baghizadeh., “Investigation on performance accuracy of different external surrogates in real time tumor tracking at external beam radiotherapy” *Frontier in Biomedical Technologies*, vol. ۲(۲), pp. ۳۸۱-۳۸۷, ۲۰۱۵ [[Extracted from MSc thesis](#)]

S. Nankali, **A. Esmaili Torshabi**, Payam Samadi Miandoab, Amin Baghizadeh.,” Optimum location of external markers using feature selection algorithms for real-time tumor tracking in external-beam radiotherapy, a virtual phantom study” *Journal of Applied Clinical Medical Physics*, vol. ۱۶ (۱), pp. ۲۲۱-۲۳۳, ۲۰۱۶ [[Extracted from MSc thesis](#)]

L. Ghorbanzadeh, **A. Esmaili Torshabi** "Investigation the performance of adaptive neuro-fuzzy inference system for brain tumor delineation using expectation maximization cluster method; a feasibility study", *Frontiers in Biomedical Technologies*, vol. ۳(۱-۲), pp. ۸-۱۹, ۲۰۱۶

P. Samadi Miandoab, **A. Esmaili Torshabi**, S. Nankali. "۲D and ۳D Optical flow based interpolation of the ۴DCT image sequences in the external beam radiotherapy." *Frontiers in Biomedical Technologies*, vol. ۲, pp. ۴۰۴-۴۱۳, ۲۰۱۵ [\[Extracted from MSc thesis\]](#)

M. Nakhostin, **A. Esmaili Torshabi**, "The influence of electron track lengths on the γ -ray response of compound semiconductor detectors" *Nuclear Instruments and Methods in Physics Research*, vol. ۶۹۷, pp. ۲۵۵-۲۵۹, ۲۰۱۵

S. Parandeh, **A. Esmaili Torshabi**, "A study on robustness of various deformable image registration algorithms on image reconstruction using ۴DCT thoracic images" *Journal of Biomedical Physics and Engineering*, vol. ۹(۵), pp. ۵۵۹-۵۶۸, ۲۰۱۹ [\[Extracted from MSc thesis\]](#)

P. Samadi Miandoab, **A. Esmaili Torshabi**, S. Nankali, M. Rezai "The Robustness of Various Intelligent Models in Patient Positioning at External Beam Radiotherapy" *Frontiers in Biomedical Technologies*, vol. ۲(۱), pp. ۳۴۷-۳۵۷, ۲۰۱۵ [\[Extracted from MSc thesis\]](#)

P. Samadi Miandoab, **A. Esmaili Torshabi**, S. Nankali, M. Rezaei Raeini." A simulation study on patient setup errors in external beam radiotherapy using an anthropomorphic ۴D phantom" *Iranian Journal of Medical Physics*, vol. ۱۳(۴) ۲۷۶-۲۸۸, ۲۰۱۷ [\[Extracted from MSc thesis\]](#)

A. Esmaili Torshabi, M. Ahmadi Arbatan. "An Assessment on implementation of Imperialist Competitive Algorithm for motion dataset optimization at radiotherapy with external surrogates" *Iranian Journal of Medical Physics*, vol. ۱۸(۵), pp. ۳۶۹-۳۷۵, ۲۰۲۱ [\[Extracted from MSc thesis\]](#)

P. Samadi Miandoab, **A. Esmaili Torshabi**, S. Nankali. "Extraction of respiratory motion signal based on image clustering and intensity parameters at radiotherapy with external beam; a comparative study" *Journal of Biomedical Physics and Engineering*, vol. ۶(۴), pp. ۲۵۳-۲۶۴, Dec. ۲۰۱۶

P. Samadi Miandoab, **A. Esmaili Torshabi**, S. Nankali. "Investigation of the optimum location of external markers for patient set-up accuracy enhancement at external beam radiotherapy." *Journal of Applied Clinical Medical Physics*. vol. ۸; (۱۸)۶, pp. ۳۲-۴۳, Nov. ۲۰۱۶ [\[Extracted from MSc thesis\]](#)

P. Samadi Miandoab, **A. Esmaili Torshabi**, S.Parandeh. "Calculation of Inter- and Intra-Fraction Motion Errors at External Radiotherapy Using a Marker-less Strategy Based on Image Registration Combined with Correlation Model" *Iranian Journal of Medical Physics*, vol. ۱۶, pp. ۲۲۴-۲۳۱, ۲۰۱۹

A. Esmaili Torshabi, R.Ghasemkhani "Investigation the performance accuracy of contoured dual ring double scatterer system for flat beam generation at proton therapy" *Journal of Biomedical Physics and Engineering*, vol. ۱۳(۲), pp. ۱۰۷-۱۱۶, ۲۰۲۳ [\[Extracted from MSc thesis\]](#)

A.Imani Pourya A., **A. Esmaili Torshabi**. "Dosimetry impact of Boron and its carriers structure at Boron Neutron Capture Therapy; a simulation study" *Multidisciplinary Cancer Investigation*, vol. ۵(۳), pp. ۱-۷, ۲۰۲۱ [\[Extracted from MSc thesis\]](#)

S. Hooshmand Koochi, **A. Esmaili Torshabi**, "A feasibility study on Nano-particle properties for signal generation at NaI(Tl) scintillation detectors" *Frontiers in Biomedical Technologies*, (Accepted at June ۲۰۲۳, In-Press) [\[Extracted from MSc thesis\]](#)

A.Esmaili Torshabi, "Measurement of secondary neutrons produced at proton therapy, a simulation study" Iranian Journal of Radiation Safety and measurement. Vol. ۱۰(۲), pp. ۱۰۷-۱۱۲, ۲۰۲۱, Special issue of ۶th ionizing and non-ionizing radiation measurement and safety conference ۴-۵ Aug. ۲۰۲۱

A. Esmaili-Torshabi, "Investigation the motion data clustering of lung tumor on its position estimation using prediction model at external surrogates' radiotherapy" *Journal of Modeling in Engineering*, vol. ۶۸, pp. ۷۳-۸۳, ۲۰۲۲

A.Esmaili Torshabi, "Investigation the physical properties of different ion species at hadron therapy; a comprehensive study" *Frontiers in Biomedical Technologies*, (Accepted at June ۲۰۲۳, In-Press)

A.Esmaili Torshabi, S. Mohammadzadeh, "The effect of various parameters on measuring alpha and beta particles from soil sample; an environmental dosimetry" *Frontiers in Biomedical Technologies* (Submitted at July ۲۰۲۳, Under-revision) [\[Extracted from MSc thesis\]](#)

A. Pella, R. Cambria, M. Riboldi, BA Jereczek-Fossa., C. Fodor, D. Zerini, A. **Esmaili Torshabi**, F. Cattani, C. Garibaldi, G. Pedroni, G. Baroni, R. Orecchia, "Use of machine learning methods for prediction of acute toxicity in organs at risk following prostate radiotherapy" *Medical Physics*, vol. ۳۸, pp. ۲۸۵۹-۲۸۶۸, ۲۰۱۱

H. Sabet, K. Ishii, S. Matsuyama, Y. Kikuchi, Nakazawa, **A. Esmaili Torshabi** and H. Yamazaki, "A method to modify coordinates of detectors in positron emission tomography system" *Nuclear Instruments and Methods in Physics Research; Section A*, vol. 600, pp. 678-682, 2008

Conferences and Meetings:

A. Esmaili Torshabi, M. Riboldi, A. Pella, G. Baroni, "The Effect of Moving Targets on the Applied Dose Distribution in Conventional Proton Therapy vs. IMPT; a Monte Carlo Simulation Study," *An international workshop in Monte Carlo computational methods in radiation track simulation and applications in physical, biological, and medical sciences*, November 9-12, 2010, Stockholm, Sweden

A. Esmaili Torshabi, M. Riboldi, A. Pella, G. Baroni, "A fuzzy prediction model approach for real time tumor tracking in radiotherapy," *38th Annual Meeting of the European Radiation Research Society*, September 8-9, 2010, Stockholm, Sweden

A. Esmaili Torshabi, A. Terakawa, K. Ishii, et al., "A CT-based Monte Carlo dose calculations for proton therapy using a new interface program," *International Conference on Medical Information Systems Engineering*, May 27-29, 2009, Tokyo Japan

A. Esmaili Torshabi, A. Terakawa, K. Ishii, et al., "A fundamental study on beam flattening based on compact double scatterer applicable to rotational beam irradiation system in the Proton therapy facility at CYRIC, Tohoku University," *The Fifth International Symposium on Radiation Safety and Detection Technology (ISORD-5)*, Kyushu Japan, July 15-17, 2009

A. Esmaili Torshabi, A. Terakawa, K. Ishii, et al., "Dose distribution calculation of proton beam with Monte Carlo method using a new interface program," ۲۰۰۸ Fall meeting of Atomic Energy Society of Japan (AESJ), Kochi Japan, September ۴-۶, ۲۰۰۸

A. Esmaili Torshabi, A. Terakawa, K. Ishii, et al., "Modification of beam intensity on target volume employing an adjustable beam flattening system in proton therapy," ۲۰۰۹ Fall meeting of Atomic Energy Society of Japan (AESJ), Tohoku University, Sendai Japan, September ۱۶-۱۸, ۲۰۰۹

A. Esmaili Torshabi, S.A. Dastyar, "A quantitative investigation on lung tumor site on its motion tracking in radiotherapy with external surrogates" ۱۲th Iranian Congress of Medical Physics Shahid Beheshti University of Medical Sciences, Tehran Iran, July ۱۹-۲۰, ۲۰۱۸

A. Esmaili Torshabi, S. Hooshmand Koochi, "The Role of Various Scintillation Detectors of Positron Emission Tomography at PET Monitoring Particle Therapy; a Simulation Study " ۲۳th Annual Iranian Nuclear Medicine Society Congress, Tehran University of Medical Sciences, Tehran Iran, Nov. ۲۷-۲۹, ۲۰۱۹

S. Hooshmand Koochi, **A. Esmaili Torshabi** "A Comparative Study on Positron Emitter Productions at PET Monitoring Hadron Therapy Using Proton, Carbon and Oxygen Beams" ۲۳th Annual Iranian Nuclear Medicine Society Congress, Tehran University of Medical Sciences, Tehran Iran, Nov. ۲۷-۲۹, ۲۰۱۹

A. Esmaili Torshabi, "Correlation between produced positron emitters and proton dose distribution at proton therapy" ۹th International Conference on Biomedical Engineering and Biotechnology November ۱۵-۱۸, ۲۰۲۰, Online via Microsoft team therapy (*Invited Speaker*)

S. Hooshmand Koochi, **A. Esmaili Torshabi**, "A micro-dosimetry study on annihilation gamma-rays and produced secondaries at PET monitoring proton" 9th International Conference on Biomedical Engineering and Biotechnology November ۱۵-۱۸, ۲۰۲۰, Online via Microsoft team therapy (accepted as oral presentation)

A. Esmaili Torshabi, "A quantitative investigation on produced positron emitters at proton therapy" ۲۷th Iranian Nuclear Conference, March ۱-۴, ۲۰۲۱ Mashhad Iran (accepted as oral presentation)

A. Paydar, **A. Esmaili Torshabi**, "Dosimetry impacts of rectum changes and balloon presence effects at proton therapy of prostate cancer" ۲۷th Iranian Nuclear Conference, March ۱-۴, ۲۰۲۱ Mashhad Iran

S. Hooshmand Koochi, **A. Esmaili Torshabi**, "A micro-dosimetry study on detecting and ۳D tracing of Muon particles at environmental monitoring of natural background radiation" ۲۷th Iranian Nuclear Conference, March ۱-۴, ۲۰۲۱ Mashhad Iran (accepted as poster presentation)

A. Esmaili Torshabi, G. Barzgarnejad, "Investigation of effective parameters on the efficiency of CdZnTe and TlBr compound semiconductor detectors" ۱st Congress on Novelty at Ionizing Radiation Detection with Focus on Micro-Pattern Gaseous Detectors, Graduate University of Advanced Technology, Kerman Iran, Nov. ۹, ۲۰۲۱

S. Hooshmand Koochi, **A. Esmaili Torshabi**, "Optimizing on NaI(Tl) scintillator crystal and ۳D assessment of optical photons, A simulation study" ۱st Congress on Novelty at Ionizing Radiation Detection with Focus on Micro-Pattern Gaseous Detectors, Graduate University of Advanced Technology, Kerman Iran, Nov. ۹, ۲۰۲۱

S. Hooshmand Koochi, **A. Esmaili Torshabi**, "Tracking the visible light from the interaction of Muon and gamma rays with optimized NaI (Tl) scintillation crystal to measure the effect of self-absorption and transparency" 1st Congress on Novelties at Ionizing Radiation Detection with Focus on Micro-Pattern Gaseous Detectors, Graduate University of Advanced Technology, Kerman Iran, Nov. ۹, ۲۰۲۱

A. Esmaili Torshabi, A. Noushzadeh, K. Zahedi Lalehdashti, "Investigation of visible light interference signal separability in alpha particle detector based on CCD and photodiode" 1st Congress on Novelties at Ionizing Radiation Detection with Focus on Micro-Pattern Gaseous Detectors, Graduate University of Advanced Technology, Kerman Iran, Nov. ۹, ۲۰۲۱

A. Esmaili Torshabi, "Review on Applications of Ionizing Radiation Detectors at Medicine" 1st Congress on Novelties at Ionizing Radiation Detection with Focus on Micro-Pattern Gaseous Detectors, Graduate University of Advanced Technology, Kerman Iran, Nov. ۹, ۲۰۲۱ (Invited Speaker)

A. Paydar, **A. Esmaili Torshabi**, "Measurement of rectum dose while using balloon at proton therapy of prostate cancer using FLUKA simulation code", 1st Congress on Novelties at Ionizing Radiation Detection with Focus on Micro-Pattern Gaseous Detectors, Graduate University of Advanced Technology, Kerman Iran, Nov. ۹, ۲۰۲۱

S.A. Dastyar, **A. Esmaili Torshabi**, "A study on study on the accuracy of motion tracking of thoracic tumors at radiotherapy with external surrogates" ۱۲th Iranian Congress of Medical Physics, Shahid Beheshti University of Medical Sciences, Tehran Iran, July ۱۹-۲۰, ۲۰۱۸

S.A. Dastyar, **A. Esmaili Torshabi**, “The effect of fuzzy correlation model parameters on real time tumor tracking at radiotherapy with external surrogates (accepted as poster presentation at conference)” 9th International Conference on Biomedical Engineering and Biotechnology November ۱۵-۱۸, ۲۰۲۰, Online via Microsoft team therapy (accepted as poster presentation)

P. Samadi Miandoab, **A. Esmaili Torshabi**, S. Nankali, M. Rezaei raeini “Optical flow based interpolation of temporal image at external beam radiotherapy” ۱۱th International Medical Physics Conference of Iran, ۶-۷ November ۲۰۱۴, accepted as oral presentation

P. Samadi Miandoab, **A. Esmaili Torshabi**, M. Rezaei raeini “Extraction of respiratory motion signal using image registration and segmentation at external beam radiotherapy” ۱۱th International Medical Physics Conference of Iran, ۶-۷ November ۲۰۱۴, accepted as poster

P. Samadi Miandoab, **A. Esmaili Torshabi**, S. Nankali, M. Rezaei raeini “Using various intelligent models in patient positioning at external beam radiotherapy” ۱۱th International Medical Physics Conference of Iran, ۶-۷ November ۲۰۱۴, accepted as poster

A. Ebrahimi, **A. Esmaili Torshabi**, “A quantitative assessment of intra-fractional tumor motion and deformation error on planned dose at conventional proton therapy” International Conference on Translational Research in Radio-Oncology | Physics for Health in Europe ICTR-PHE, CICE Geneva Switzerland, ۱۵-۱۹ February ۲۰۱۶

S. Nankali, **A. Esmaili Torshabi**, P. Samadi Miandoab, A. Baghizadeh “Investigation effect of the inter-intra fraction motion errors in the external beam radiotherapy” ۱۱th International Medical Physics Conference of Iran, ۶-۷ November ۲۰۱۴, accepted as oral

S. Nankali, **A. Esmaili Torshabi**, P. Samadi Miandoab, A. Baghizadeh "Investigation location of the external markers in the accuracy of the tumor tracking in the external beam radiotherapy" 11th International Medical Physics Conference of Iran, 6-7 November 2014, accepted as poster

S. Parandeh, **A. Esmaili Torshabi**, "Simulation of active and passive dose delivery systems used at proton therapy" 11th International Medical Physics Conference of Iran, 6-7 November 2014

S. Parandeh, **A. Esmaili Torshabi**, "Comparison of medical image registration techniques for image interpolation applicable at external beam radiotherapy" 11th International Medical Physics Conference of Iran, 6-7 November 2014

L. Ghorbanzadeh, **A. Esmaili Torshabi** "Medical Image Segmentation and Tumor Definition Using Clustering Algorithms" 11th International Medical Physics Conference of Iran, 6-7 November 2014, accepted as oral

G. Barzgarnejad, **A. Esmaili Torshabi** "An Investigation on the performance of CZT Compound Semi-Conductor Detector in Front of Photon source; a Micro-dosimetry Simulation study" 2nd National Conference of Technology, Energy and Data on Electrical & Computer Engineering, Tehran-Iran, 2-3 June 2016, accepted as oral

Kh. Mirzakhani, **A. Esmaili Torshabi**, M. Taghipour, Ar. Dastyar "Design and Implementation of a novel prediction model for real time tumor tracking at external radiotherapy" The International Conference on New researches at Engineering Sciences, Tehran-Iran, 25-26 May 2016, accepted as oral,

M. Taghipour, **A. Esmaili Torshabi**, Kh. Mirzakhani, Ar. Dastyar "The effect of implanted fiducial on 3D dose distribution at Hadron-therapy" The International Conference on New researches at Engineering Sciences, Tehran-Iran, ۲۵-۲۶ May ۲۰۱۶, accepted as oral, chosen as best presentation with honored certificate

Riboldi M, Gianoli C, **Torshabi AE**, Pella A, Baroni G., "Breathing phase detection and motion monitoring for 3D treatment planning and delivery" 3D Treatment Planning Workshop, December ۹-۱۰, ۲۰۱۰, GSI, Darmstadt, Germany

V. Moslemi, **A.E. Torshabi**, R. Faghihi, S. Mehdizadeh, K. Haddad, M.A. Mosleh-Shirazi, "Design and Implementation of Interface Software to Produce MCNP⁵C Geometry Input File From Tomography Images and Comparison of Dose in Brachytherapy between the Interface Software and Standard Monte Carlo Simulation," *Proceedings of the 7th Congress of the Iranian Radiographic Sciences Association*, Shiraz, Iran, ۹۳ (۲۰۰۸)

Pella A., Riboldi M., Seregni M., **Esmaili Torshabi A.**, Pedotti A., Orecchia R., Baroni G. "Preliminary study of a novel external-internal correlation model for motion mitigation in particle therapy," *Annual PTCOG ۵۰ meetnig*, May, ۰۸-۱۴, ۲۰۱۱, Philadelphia, America,

A.Paydar, **A. Esmaili Torshabi**, "A simulation study on the modulation of deep dose distribution of protons to produce SOBP with uniformly suitable regions in proton-beam radiotherapy", 1st National Conference on Technological Advances of Applied Physics, Graduate University of Advanced Technology, Kerman Iran, March ۹-۱۰, ۲۰۲۲

S. Hooshmand Koochi, **A. Esmaili Torshabi**, "A simulation study on the positron emitters production for various organs in proton therapy of Brain tumor" 1st International & 2^{8th} National Conference on Nuclear Science and Technology 2022 (ICNSC22) March 2-4, 2022, Tehran, IRAN

Book Chapters

Marco Riboldi, Matteo Seregini, Andrea Pella, **Ahmad Esmaili Torshabi**, Guido Baroni, "Real-time tumor targeting in external beam radiotherapy," *Tumor Targeting: New Technologies and therapies*, Publication date: 1st quarter 2011, NOVA Science Publishers Inc., NY 11788

Ahmad Esmaili Torshabi, Marco Riboldi, Andrea Pella, Ali Negarestani, Mohamad Rahnema and Guido Baroni, A clinical Application of Fuzzy Logic, "Fuzzy Logic" ISBN 979-903-307-078-4, INTECH open access publisher, May 2011

Ahmad Esmaili Torshabi and Amirreza Dastyar, Book chapter title: "Radiotherapy of breast cancer with an overview to its motion issue during treatment" Accepted at SM book publishing group, In-Press (Nancy Hayes: stt.ebooks@esciencemedicine.com)

Ahmad Esmaili Torshabi and Amirreza Dastyar, Book chapter title: "motion challenge of thoracic tumors at radiotherapy by introducing available compensation strategies" Book title: Radiotherapy, ISBN: 978-903-01-0126-0, INTECH open access publisher, 17 May 2017, DOI: 10.5772/67444