Curriculum Vitae

Name: Ilker Ozsahin

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Place of Birth: Adana, Turkey

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Education

2008- 2014	PhD	Physics/Medical Imaging	Cukurova University
2002 - 2007	Bachelor of Science	Physics	Cukurova University

Postdoctoral Training

April 2021 -	Postdoctoral Research Fellow	CMS/HCAL	CERN
2018 - 2019	Visiting Research Fellow	Biomedical Imaging Lab (Assoc. Prof. Dr. Greta Mok)	University of Macau
2015 - 2017	Postdoctoral Research Fellow	Radiology (Prof. Dr. Georges El Fakhri)	Harvard Medical School

Appointments at Hospitals/Affiliated Institutions

2015 - 2017	Postdoctoral Research Fellow	Nuclear Medicine (Prof. Dr. Georges El Fakhri)	Massachusetts General Hospital

Other Professional Positions

July 2020 -	Assoc. Prof.	Near East University, North Cyprus
September 2017 - July 2020	Asst. Prof.	Near East University, North Cyprus
November 2008 - September 2014	Research Assistant	Cukurova University, Turkey

Other Educations and Courses

July 2021	LHC - Machine, CERN
July 2021	Portable ODH Detector, CERN
July 2021	Electrical Safety - Awareness - Facilities, CERN
July 2021	Electrical Safety - Awareness - Fundamentals, CERN
June 2021	Self-Rescue Mask - Initial (Covid-19), CERN
June 2021	Radiation Protection - Controlled Area - Initial, CERN
April 2021	Radiation Protection - Awareness, CERN
April 2021	Radiation Protection-Supervised Area, CERN

July 2016	Certificate in Applied Biostatistics, Harvard Catalyst's Education Program
December 2015	Medical Imaging Sciences and Applications, Harvard-MIT Division of Health Science Technology
October 2015	Medical Device Development, Harvard Catalyst's Education Program
October 2015	Introduction to Clinical Investigation Course, Harvard Catalyst's Education Program
September 2015	Massachusetts General Hospital General Safety Training
July 2015	Responsible Conduct of Research (RCR) Basic Course: Plagiarism, Authorship, Collaborative Research, Data Management, Financial Responsibility, Mentoring, Peer Review, Research Misconduct
July 2015	Radiation Safety Training, Massachusetts General Hospital Radiation Safety Office
June 2015	Human Research Training
June 2015	Magnetic Resonance Imaging Safety Training

Teaching Experience

Undergraduate

Calculus
Physics
Electromagnetic Theory
Radiology Physics
Nuclear Medicine
Biomedical Instrumentation
Biomedical Signal Processing

Postgraduate

Medical Imaging Science and Technologies
Neuroscience

Awards

2015 - 2016 International Postdoctoral Research Fellowship, The Scientific and Technological Research Council of Turkey (TUBITAK), Harvard Medical School and Massachusetts General Hospital, Boston, Massachusetts, USA

2011 - 2012 PhD student, research position in a European Research Council (ERC) awarded project, IFAE (Institut de Fisica d'Altes Energies – Institute of High Energy Physics), Universitat Autonoma de Barcelona (UAB) in Barcelona, Spain

2009 Summer internship at Frederick Seitz Materials Research Laboratory at the University of Illinois at Urbana-Champaign, Illinois, USA

Computer Skills

Operating Systems: Linux, Mac OS, Windows

Software / Applications, Languages and Scripts: LaTeX, ROOT, GATE, GAMOS (Geant4-based Architecture for Medicine-Oriented Simulations), ImageJ, AMIDE

Technical Skills

Running GE SPECT scanner

Running Siemens Focus 220 microPET scanner

Performing annually, quarterly, and monthly SPECT Quality Assurance and Quality Control Tests (QA/QC)
Growth of thin films by Pulsed Filtered Cathodic Vacuum Arc Deposition
Structural, optical, and electrical characterization of thin films
Growth and characterization of Carbon Nanotubes by Chemical Vapor Deposition
Experienced in Spectrophotometer, Hall Effect Measurement System, Electron Beam Evaporator, Thermal Evaporator, Probe Station, Atomic Force Microscopy, Scanning Electron Microscopy and Clean Room Processing

Research Statement

I have extensive experience in medical imaging devices including modeling, simulation and image reconstruction such as Positron Emission Tomography (PET), Positron Emission Mammography (PEM), Single Photon Emission Computed Tomography (SPECT), and Compton Camera (CC). I have worked on several different fields of science such as high energy physics, solid-state physics, and medical imaging. I have been to University of Illinois at Urbana-Champaign, Illinois, USA to work on growth of carbon nanotubes. I worked at Universidad Autonoma de Barcelona in Spain as a PhD student for one year in an ERC funded PET project. In addition to my PhD studies, I have worked as a research assistant for six years in the Physics Department at Cukurova University in Adana, Turkey. After earning my PhD, I won the International Postdoctoral Research Scholarship from The Scientific and Technological Research Council of Turkey (TUBITAK) for Harvard Medical School and Massachusetts General Hospital for one year and then was supported by Harvard for my further postdoctoral studies. As a faculty in the Department of Biomedical Engineering at Near East University, I am working on simulation of novel high-sensitivity and high-resolution PET and SPECT scanners. Recently, I have been working on multi-criteria decision-making application on healthcare and medicine, as well as deep learning in medical imaging such as applying neural network algorithms for neuropsychiatric diseases like AD and PD for high-accuracy classification and early detection. Also, I worked as a visiting fellow at University of Macau on multi-pinhole SPECT collimator design and implementation for brain imaging, as well as cardiac and small animal imaging by using adaptive collimators. Currently, I am working at CERN in CMS experiment.

Teaching Interests

My main motivation for being in academia is the opportunity to teach, advice, inspire and educate both graduate and undergraduate students. I strongly believe in the importance of education in society, and teaching has provided me with rewarding experiences during my appointment here at Near East University. I believe the knowledge we accumulate as practitioners and researchers is only valuable if shared with others. As such, during my appointment at Near East University, I had the opportunity to teach and advice both undergraduate and graduate students.
As a research assistant, I lectured Physics and Calculus in Physics Department. In these classes, I had the opportunity to exercise my teaching philosophy of combining a solid theoretical foundation with practical hands-on experience. Having experienced myself many of the difficulties of a graduate student, for example, the switching from a problem solving to a

problem understanding mind set, the pursuit of individual research, and the articulation of results for my dissertation, I've helped many graduate students in overcoming these difficulties.
As an Associate Professor, I have been teaching Biomedical Engineering classes including Electromagnetic Theory, Radiology Physics, as well as special topic classes such as Topics in Decision Making Theories for Biomedical Engineering, Statistical Multi-Criteria Evaluation for Medical Imaging, Fuzzy Applications to Radiology, Nuclear Medicine, Neuroscience, Simulation for Nuclear Medicine Imaging Devices, Biomedical Imaging System Designs, etc. My approach to teaching is to incorporate both a solid theoretical foundation, with hands-on experience in leading students into thinking about the problem, and formulating hypothesis, before engaging in their solution. The proper teaching cannot be limited to the presentation of techniques and notations. Instead, it must focus on the understanding of its essential difficulties, and the principles used in its analysis, design and implementation. This can only be grasped by the combination of theory, as an enlightening factor, with hands-on experiences that allow the students to understand the problem and apply the solution.
I believe many of the problems faced by students in the field are a consequence on the way this subject has been traditionally taught. Traditional courses focus on the exposition of techniques and approaches without much connection to the problems faced in real-world projects. I always asked the students to first think about the problem, discuss the requirements, and then start their own interactive design. For such, after this brainstorming phase of some minutes, where the students were given an opportunity to understand the problem, I gave the students some time to solve the problem themselves. Only then I proceeded to guide the students in the solution of the problem at hand. This approach gives the students the opportunity to think about the problem beforehand and experience some of the difficulties one may encounter in real-world projects. In sum, by adopting a teaching philosophy that combines a solid theoretical background with hands- on experience, my goal is to connect theory with practice, thus transmitting the knowledge acquired during years of research first to students, and through them, to society as a whole.

Publications

2021

1. Jemal Edris Dawd, Dilber Uzun Ozsahin, **Ilker Ozsahin** " A Review of Diagnostic Reference Levels in Computed Tomography". Curr Med Imaging. 2021 Sep 12. doi: 10.2174/1573405617666210913093839.
2. **Ilker Ozsahin**, Boran Sekeroglu, Tracy A. Butler "Classification of Alzheimer's disease by using tau PET images and deep convolutional neural networks". Alzheimer's & Dementia. Alzheimer's Association International Conference. 2021
3. **I. Ozsahin**, D. U. Ozsahin, P. A. Makarov and G. S. P. Mok, "BoXPECT: High Sensitivity Multi-Pinhole Brain SPECT," 2020 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), 2021, pp. 1-2.
4. **Ilker Ozsahin**, Mubarak Taiwo Mustapha, Safa Albarwary, Burcin Sanlidag, Dilber Uzun Ozsahin. Tracy A. Butler "An Investigation to Choose the Proper Therapy Technique in The Management of Autism Spectrum Disorder". Journal of Comparative Effectiveness Research, 2021.

5. Figen Sarigul Yildirim, Murat Sayan, Tamer Sanlidag, Berna Uzun, Dilber Uzun Ozsahin, **Ilker Ozsahin.** "Comparative Evaluation of the Treatment of COVID-19 with Multi-Criteria Decision-Making Techniques" Journal of Healthcare Engineering, 2021.
6. Basil Bartholomew Duwa, Dilber Uzun Ozsahin and **Ilker Ozsahin**. Introduction to Machine Learning in Healthcare. Ilker Ozsahin and Dilber Uzun Ozsahin (Ed). In Applied Machine Learning and Multi-Criteria Decision-Making in Healthcare, Bentham Science Publisher, 2021.
7. Basil Bartholomew Duwa, Dilber Uzun Ozsahin and **Ilker Ozsahin**. Machine Learning in Healthcare. Ilker Ozsahin and Dilber Uzun Ozsahin (Ed). In Applied Machine Learning and Multi-Criteria Decision-Making in Healthcare, Bentham Science Publisher, 2021.
8. Mordecai Maisaini, Mustafa Taseli, Dilber Uzun Ozsahin and **Ilker Ozsahin**. Analysis of Retinoblastoma Treatment Techniques with Fuzzy PROMETHEE. Ilker Ozsahin and Dilber Uzun Ozsahin (Ed). In Applied Machine Learning and Multi-Criteria Decision-Making in Healthcare, Bentham Science Publisher, 2021.
9. Abdulaziz Tabbakha, Dilber Uzun Ozsahin, Berna Uzun and **Ilker Ozsahin**. Selection of Hemorrhoid Treatment Techniques using a Multi-Criteria Decision-Making Technique. Ilker Ozsahin and Dilber Uzun Ozsahin (Ed). In Applied Machine Learning and Multi-Criteria Decision-Making in Healthcare, Bentham Science Publisher, 2021.
10. **Ilker Ozsahin**, Dilber Uzun Ozsahin and Mustapha Taiwo Mubarak. Introduction to biomedical instrumentation. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
11. Dilber Uzun Ozsahin, Majed Hejazi, Omar Sameer Adnan, Hamza Alloush, Ahmad Khabbaz, John Bush Idoko, Basil Bartholomew Duwa, and **Ilker Ozsahin**. Designing a 3D printed artificial hand. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
12. Dilber Uzun Ozsahin, John Bush Idoko, Ahmad Jarwah, Hasan Badran, Noman Abdul Wajid, and **Ilker Ozsahin**. Construction of smart assistive gloves for paralytic people. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
13. Dilber Uzun Ozsahin, Abdulrahim S.A. Almoqayad, Abdullah Ghader, Hesham Alkahlout, John Bush Idoko, Basil Bartholomew Duwa, and **Ilker Ozsahin,** Development of smart jacket for disc. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
14. Dilber Uzun Ozsahin, John Bush Idoko, Basel Almagharby, Mohammed Bin Merdhah, **Ilker Ozsahin**, Evaluation of a finite element laminectomy, Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
15. Dilber Uzun Ozsahin, John Bush Idoko, Abdullah A. Usman, Rehemah Namatovu, Kamil A. Ibrahim, and **Ilker Ozsahin**. Construction of an ultrasonic sight device for visually impaired people. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
16. Dilber Uzun Ozsahin, John Bush Idoko, Mandy Sizalobuhle Mpofu, Ismail Ramadan Swalehe. and **Ilker Ozsahin**. Development of medical dispatcher: A robot that delivers medicine. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.

17. Dilber Uzun Ozsahin, John Bush Idoko, Mohamad Hejazi, Rayan Allaia, Mennatullah Ahmed, Zuhdi Badawi, and **Ilker Ozsahin**. Design and implementation of wireless helmet and mechanical wheelchair. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
18. Dilber Uzun Ozsahin, John Bush Idoko, Basil Bartholomew Duwa, Majd Zeidan, and **Ilker Ozsahin**. Construction of vehicle shutdown system to monitor driver's heartbeats. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
19. Dilber Uzun Ozsahin, John Bush Idoko, Busayo Oluwatobiloba Aderotoye, Laith M. Alasais, Hamdi Burakah, Jamil Hilal Seif Abu Shaban, and **Ilker Ozsahin**. Development of a modern electronic stethoscope. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
20. Dilber Uzun Ozsahin, John Bush Idoko, Nyasha T. Muriritirwa, Sabareela Moro, and **Ilker Ozsahin**. Application and impact of phototherapy on infants. Dilber Uzun Ozsahin and Ilker Ozsahin (Ed). In Modern Practical Healthcare Issues in Biomedical Instrumentation, Elsevier, 2021.
21. B Uzun, **I Ozsahin**, VO Agbor, DU Ozsahin. Theoretical aspects of multi-criteria decision-making (MCDM) methods. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 3-40, Elsevier, 2021.
22. DU Ozsahin, K Meck, ST Halimani, B Uzun, **I Ozsahin**. Fuzzy PROMETHEE-based evaluation of brain cancer treatment techniques. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 41-58, Elsevier, 2021.
23. **I Ozsahin**, DU Ozsahin, K Meck, ST Halimani, B Uzun. Fuzzy PROMETHEE–based evaluation of skin cancer treatment techniques. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 81-98, Elsevier, 2021.
24. **I Ozsahin**, NA Isa, K Meck, ST Halimani, B Uzun, DU Ozsahin. Fuzzy PROMETHEE–based evaluation of prostate cancer treatment techniques. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 99-116, Elsevier, 2021.
25. MT Mustapha, DU Ozsahin, **I Ozsahin**. Comparative evaluation of point-of-care glucometer devices in the management of diabetes mellitus. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 117-136, Elsevier, 2021.
26. DU Ozsahin, R Salawu, B Uzun, **I Ozsahin**. Application of fuzzy PROMETHEE on hearing aid. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 153-162, Elsevier, 2021.
27. MT Mustapha, B Uzun, DU Ozsahin, **I Ozsahin**. A comparative study of X-ray based medical imaging devices. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 163-180, Elsevier, 2021.
28. DU Ozsahin, **I Ozsahin**, K Nyakuwanikwa, TW Simbanegavi, B Uzun. Evaluation and simulation of dental instrument sterilization techniques with fuzzy PROMETHEE. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 181-195, Elsevier, 2021.
29. MT Mustapha, DU Ozsahin, B Uzun, **I Ozsahin**. Application of fuzzy TOPSIS in the sterilization of medical devices. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 197-216, Elsevier, 2021.

30. DU Ozsahin, L Hamidat, FD Alimi, B Uzun, **I Ozsahin**. Evaluation of migraine drugs using MCDM methods. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 261-275, Elsevier, 2021.
31. NA Isa, DU Ozsahin, **I Ozsahin**. Top cancer treatment destinations: a comparative analysis using fuzzy PROMETHEE. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering, 277-308, Elsevier, 2021.

2020

32. **Ozsahin I,** Chen L, Könik A, King MA, Beekman FJ, Mok GSP. The clinical utilities of multi-pinhole single photon emission computed tomography. Quant Imaging Med Surg 2020;10(10):2006-2029.
33. **Ilker Ozsahin**, Boran Sekeroglu, Musa Sani Musa, Mubarak Taiwo Mustapha, Dilber Uzun Ozsahin. "Review on Diagnosis of COVID-19 from Chest CT Images Using Artificial Intelligence". Computational and Mathematical Methods in Medicine, 2020, 9756518.
34. Sekeroglu B, **Ozsahin I**. "Detection of COVID-19 from Chest X-Ray Images Using Convolutional Neural Networks". SLAS TECHNOLOGY: Translating Life Sciences Innovation. September 2020. doi:10.1177/2472630320958376.
35. Murat Sayan, Figen Sarigul Yildirim, Tamer Sanlidag, Berna Uzun, Dilber Uzun Ozsahin, **Ilker Ozsahin.** "Capacity Evaluation of Diagnostic Tests For COVID-19 Using Multicriteria Decision-Making Techniques" Computational and Mathematical Methods in Medicine, 2020. Article ID 1560250. https://doi.org/10.1155/2020/1560250.
36. **Ilker Ozsahin.** Identifying a Personalized Anesthetic with Fuzzy PROMETHEE. Healthc Inform Res. 2020;26(3):201-211.
37. **Ilker Ozsahin**, Boran Sekeroglu, Pwadubashiyi Coston Pwavodi, and Greta S. P. Mok "High-Accuracy Automated Diagnosis of Parkinson's Disease" Current Medical Imaging, 2020; 16(6): 688-694. doi: 10.2174/1573405615666190620113607.
38. **Ilker Ozsahin**, Samuel Tadesse Abebe, Greta S. P. Mok. "A Multi-Criteria Decision-Making Approach for Schizophrenia Treatment Techniques" Archives of Psychiatry and Psychotherapy, 2020; 2: 52–61.
39. **I. Ozsahin**, "Preliminary Performance Evaluation of Adjustable-FOV Full-Body PET", Journal of Instrumentation, 2020, 15 C06038.
40. **I Ozsahin**, C Onyebuchi, B Sekeroglu "Differentiating COVID-19 from other types of pneumonia with convolutional neural networks" medRxiv, 2020
41. **I. Ozsahin**, D. Uzun Ozsahin, P. A. Makarov, M. S. Musa and G. S. P. Mok "Simulation of novel scintillator crystals for brain PET", Journal of Instrumentation, 2020, 15 C05024.
42. **Ilker Ozsahin,** Greta S. P. Mok, "Preliminary Performance Evaluation of Adaptive Multi-Pinhole Collimators for SPECT," 2019 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), Manchester, United Kingdom, 2020, pp. 1-2.
43. **Ilker Ozsahin**, Dilber Uzun Ozsahin. Neural network applications in medicine. Walid Zgallai (Ed). In Developments in Biomedical Engineering and Bioelectronics. Biomedical Signal Processing with Artificial Intelligence in Healthcare, Elsevier, 2020: 183-206.
44. Dilber Uzun Ozsahin, Berna Uzun, **Ilker Ozsahin**, Mubarak Taiwo Mustapha, Musa Sani Musa. Chapter 6 Fuzzy logic in medicine. Walid Zgallai (Ed). In Developments in

Biomedical Engineering and Bioelectronics. Biomedical Signal Processing with Artificial Intelligence in Healthcare, Elsevier, 2020: 153-182.

45. Saad Eddin Abdulaal, Ali Sawtari, Sinem Akman, Hamza Alhajiibrahim1, Sabareela Victory Moro, Fadi Al-Turjman, **Ilker Ozsahin** and Dilber Uzun Ozsahin. Evaluation of mobile patient monitoring: a study in practice. Wireless Medical Sensor Networks for IoT-based eHealth. Fadi Al-Turjman (Ed). Institution of Engineering & Technology, 2020.
46. Auny El Jundi, Omran Alkhaldi1, Mohamad Elamin, Sharmain Dube, Fadi Al-Turjman, **Ilker Ozsahin** and Dilber Uzun Ozsahin. The development of a blood infusion warmer device: a new device. Fadi Al-Turjman (Ed). Wireless Medical Sensor Networks for IoT-based eHealth. Fadi Al-Turjman (Ed). Institution of Engineering & Technology, 2020.
47. Mohamad Bassl Alramli, Mohamad Dib, Mohammad Amrou Dib, Hussam Macha Alghazalat, Mubarak Mustapha, Fadi Al-Turjman, **Ilker Ozsahin** and Dilber Uzun Ozsahin. Toward a smart hospital room and automated systems. Wireless Medical Sensor Networks for IoT-based eHealth. Fadi Al-Turjman (Ed). Institution of Engineering & Technology, 2020.
48. Ahmad Mohammed, Shaif Zahrah, Muaadh Al-Bahri, Basil Bartholomew Duwa1, Fadi Al-Turjman, **Ilker Ozsahin** and Dilber Uzun Ozsahin. Acoustic glass for deaf people: a new device. Wireless Medical Sensor Networks for IoT-based eHealth. Fadi Al-Turjman (Ed). Institution of Engineering & Technology, 2020.
49. Mostafa Fakhouri, Ameer Jubran, Rashad Ghaleb, Timipawopri Adada, Fadi Al-Turjman, **Ilker Ozsahin** and Dilber Uzun Ozsahin. A framework for blind people using wireless medical sensors network. Wireless Medical Sensor Networks for IoT-based eHealth. Fadi Al-Turjman (Ed). Institution of Engineering & Technology, 2020.
50. Yousaif Esaam Ismaeel, Mohammed Bin Merdhah, Abdullah Omar Alani, Fadi Al-Turjman, **Ilker Ozsahin** and Dilber Uzun Ozsahin. Smart system for the blind. Wireless Medical Sensor Networks for IoT-based eHealth. Fadi Al-Turjman (Ed). Institution of Engineering & Technology, 2020.

2019

51. **Ilker Ozsahin**, Boran Sekeroglu, Greta S. P. Mok. “The use of back propagation neural networks and 18F-Florbetapir PET for early detection of Alzheimer's disease using Alzheimer’s Disease Neuroimaging Initiative Database” PLOS ONE, 2019.
52. **Ilker Ozsahin**, Berna Uzun, Nuhu Abdulhaqq Isa, Greta S. P. Mok, Dilber Uzun Ozsahin, "Comparative Analysis of the Common Scintillation Crystals Used in Nuclear Medicine Imaging Devices", 2018 IEEE Nuclear Science Symposium and Medical Imaging Conference Record, 2019.
53. **Ilker Ozsahin,** Musa Sani Musa, Greta S. P. Mok, "Simulation of a High-Sensitivity Adjustable-FOV PET Scanner", 2018 IEEE Nuclear Science Symposium and Medical Imaging Conference Record, 2019.
54. **Ozsahin I.**, Uzun Ozsahin D., Maisaini M., Mok G. S.P. "Fuzzy PROMETHEE analysis of leukemia treatment techniques" World Cancer Research Journal, 6: e1315, 2019.
55. **I Ozsahin,** DU Ozsahin, K Nyakuwanikwa, TW Simbanegavi "Fuzzy PROMETHEE for Ranking Pancreatic Cancer Treatment Techniques", Advances in Science and Engineering Technology International Conferences (ASET) 2019, IEEE Xplore, 2019.

56. MT Mubarak, **I Ozsahin**, DU Ozsahin "Evaluation of Sterilization Methods for Medical Devices", Advances in Science and Engineering Technology International Conferences (ASET) 2019, IEEE Xplore, 2019.
57. MS Musa, DU Ozsahin, **I Ozsahin** "A Comparison for Liver Cancer Treatment Alternatives", Advances in Science and Engineering Technology International Conferences (ASET) 2019, IEEE Xplore, 2019.
58. DU Ozsahin, K Nyakuwanikwa, T Wallace, **I Ozsahin** "Evaluation and Simulation of Colon Cancer Treatment Techniques with Fuzzy PROMETHEE" Advances in Science and Engineering Technology International Conferences (ASET) 2019, IEEE Xplore, 2019.
59. **I. Ozsahin**, T. Sharif, D. Uzun Ozsahin and B. Uzun "Evaluation of solid-state detectors in medical imaging with fuzzy PROMETHEE", Journal of Instrumentation, 14 C01019, 2019.
60. Mordecai Maisaini, Berna Uzun, **Ilker Ozsahin**, Dilber Uzun, "Evaluating Lung Cancer Treatment Techniques Using Fuzzy PROMETHEE Approach", In: Aliev R., Kacprzyk J., Pedrycz W., Jamshidi M., Sadikoglu F. (eds) 13th International Conference on Theory and Application of Fuzzy Systems and Soft Computing — ICAFS-2018. ICAFS 2018. Advances in Intelligent Systems and Computing, vol 896. pp. 209–215, Springer, Cham. 2019.

2018

61. M. S. Musa, D. Uzun Ozsahin and **I. Ozsahin**, "Simulation and evaluation of high-performance cost-effective positron emission mammography scanner", Journal of Instrumentation, 2018.
62. **Ilker Ozsahin**, Codi Gharagouzloo, Vasily Belov, Nathaniel M. Alpert, and Georges El Fakhri, "Awake Animal Functional Imaging to Investigate the Effects of General Anesthesia on Brain", Advances in Science and Engineering Technology International Conferences (ASET) 2018, IEEE Xplore, 2018.
63. Dilber Uzun Ozsahin, Nuhu Abdulhaqq Isa, Berna Uzun, **Ilker Ozsahin**, "Effective analysis of image reconstruction algorithms in nuclear medicine using fuzzy PROMETHEE", Advances in Science and Engineering Technology International Conferences (ASET) 2018, IEEE Xplore, 2018.
64. Dilber Uzun Ozsahin and **Ilker Ozsahin**, "A Fuzzy PROMETHEE Approach for Breast Cancer Treatment Techniques", International Journal of Medical Research & Health Sciences, 7(5): 29-32, 2018.
65. Dilber Uzun Ozsahin, Berna Uzun, Musa Sani Musa, **Ilker Ozsahin**, "Evaluating X-Ray based Medical Imaging Devices with Fuzzy Preference Ranking Organization Method for Enrichment Evaluations" International Journal of Advanced Computer Science and Applications, Volume 9 Issue 3, 2018.

2017

66. MS Musa, DU Ozsahin, **I Ozsahin**, "Simulation and evaluation of a cost-effective high-performance brain PET scanner", Journal of Biomedical Imaging and Bioengineering, Volume 1, Issue 2, 2017.
67. DU Ozsahin, B Uzun, MS Musa, N Şentürk, FV Nurçin, **I Ozsahin**, "Evaluating nuclear medicine imaging devices using fuzzy PROMETHEE method" Procedia Computer Science 120, 699-705, 2017.

68. Dilber Uzun Ozsahin, Berna Uzun, Musa Sani Musa, Abdulkader Helwan, Chidi Nwekwo Wilson, Fatih Veysel Nurçin, Niyazi Şentürk, **Ilker Ozsahin**, "Evaluating Cancer Treatment Alternatives using Fuzzy PROMETHEE Method", International Journal of Advanced Computer Science & Applications, Vol. 8, No, 10, 177-182, 2017.

2016

69. A. Andreyev, A. Celler, **I. Ozsahin**, and A. Sitek, "Resolution recovery for Compton camera using origin ensemble algorithm", Medical Physics, Aug; 43(8); 4866, 2016.

2014

70. **I Ozsahin**, M Z Unlu, "Modeling and Simulation of Positron Emission Mammography (PEM) Based on Double-Sided CdTe Strip Detectors", Journal of Instrumentation 9 C03055, 2014.

2013

71. M Kolstein, G De Lorenzo, E Mikhaylova, M Chmeissani, G Ariño, Y Calderón, **I Ozsahin**, D Uzun, "Evaluation of Origin Ensemble Algorithm for Image Reconstruction for Pixelated Solid-State Detectors with Large Number of Channel", Journal of Instrumentation 8 P04030, 2013.
72. G De Lorenzo, M Chmeissani, D Uzun, M Kolstein, **I Ozsahin**, E Mikhaylova, P Arce, M Cañadas, G Ariño, Y Calderón, "Pixelated CdTe Detectors to Overcome Intrinsic Limitations of Crystal Based Positron Emission Mammographs", Journal of Instrumentation 8 C01030, 2013.

2011

73. Mikhaylova E., Canadas M., De Lorenzo G., Chmeissani M., Arce P., Arino G., Cabruja, E., Calderon Y., Kolstein M., Gabriel Macias- Montero, J., Martinez, R., **Ozsahin I.**, Puigdengoles, C. Uzun D., "Simulation of pseudo-clinical conditions and image quality evaluation of PET scanner based on pixelated CdTe detector", 2011 IEEE Nuclear Science Symposium and Medical Imaging Conference Record, 2716-2722.
74. Calderon Y., Kolstein M., Uzun D., De Lorenzo G., Chmeissani M., Arce P., Arino G., Cabruja, E., Canadas M., Gabriel Macias-Montero, J., Martinez, R., Mikhaylova E., **Ozsahin I.**, Puigdengoles, C., "Modeling, simulation and evaluation of a compton camera based on a pixelated solid-state detector", 2011 IEEE Nuclear Science Symposium and Medical Imaging Conference Record, 2708-2715.
75. Arino G., Chmeissani M., Puigdengoles, C., De Lorenzo G., Diener R., Arce P., Cabruja, E., Calderon Y., Canadas M., Kolstein M., Gabriel Macias-Montero, J., Martinez, R., Mikhaylova E., **Ozsahin I.**, Uzun D., "Characterization of CdTe detector for use in PET", 2011 IEEE Nuclear Science Symposium and Medical Imaging Conference Record, 4598-4603.

Books Edited

2021

1. **Ilker Ozsahin**, Dilber Uzun Ozsahin, Berna Uzun. Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering. Elsevier, 2021.
2. Dilber Uzun Ozsahin, **Ilker Ozsahin**. Modern Practical Healthcare Issues in Biomedical Instrumentation. Elsevier, 2021.
3. **Ilker Ozsahin**, Dilber Uzun Ozsahin. Applied Machine Learning and Multi-Criteria Decision-Making in Healthcare. Bentham Science, 2021.

Oral/Poster Presentations

1. **I. Ozsahin,** B. Sekeroglu, T. A. Butler, "Classification of Alzheimer's disease by using tau PET images and deep convolutional neural networks", Alzheimer's Association International Conference, Denver, USA, 2021.
2. **I. Ozsahin,** D. Uzun Ozsahin, C. Onyebuchi, G. S. P. Mok, "BoXPECT: High Sensitivity Multi-Pinhole Brain SPECT", IEEE Nuclear Science Symposium and Medical Imaging Conference, Boston, USA, 2020.
3. **I. Ozsahin**, G. S. P. Mok, "Preliminary Performance Evaluation of Adaptive Multi-Pinhole Collimators for SPECT," IEEE Nuclear Science Symposium and Medical Imaging Conference, Manchester, UK, 2019
4. **Ilker Ozsahin**, Pavel Makarov, Greta S. P. Mok "Design and Performance Evaluation of an Adjustable-FOV PET Scanner", 15th Topical Seminar on Innovative Particle and Radiation Detectors (IPRD19), Siena, Italy, 2019
5. **Ilker Ozsahin**, Dilber Uzun Ozsahin, Samuel Tadesse Abebe, Pavel Makarov, Greta S. P. Mok "Optical Transparent Ceramic Scintillators for High Performance Brain PET", 15th Topical Seminar on Innovative Particle and Radiation Detectors (IPRD19), Siena, Italy, 2019
6. **Ilker Ozsahin**, "Design and Evaluation of a Multi-Pinhole Collimator for Cardiac SPECT" Molecular Imaging Instrumentation Conference, Hong Kong, 2019
7. **Ilker Ozsahin**, Dilber Uzun Ozsahin. "Fuzzy PROMETHEE for Ranking Pancreatic Cancer Treatment Techniques" ASET Engineering Innovations in Healthcare International Conference, Dubai, UAE, 2019
8. Musa Sani Musa, Dilber Uzun Ozsahin, **Ilker Ozsahin**. "A Comparison for Liver Cancer Treatment Alternatives" ASET Engineering Innovations in Healthcare International Conference, Dubai, UAE, 2019
9. Dilber Uzun Ozsahin, Kudakwashe Nyakuwanikwa, Tapiwa Wallace Simbanegavi, **Ilker Ozsahin**, "Evaluation and Simulation of Colon Cancer Treatment Techniques with Fuzzy PROMETHEE" ASET Engineering Innovations in Healthcare International Conference, Dubai, UAE, 2019
10. Mubarak Taiwo Mubarak, **Ilker Ozsahin**, Dilber Uzun Ozsahin. "Evaluation of Sterilization Methods for Medical Devices" ASET Engineering Innovations in Healthcare International Conference, Dubai, UAE, 2019
11. **IIker Ozsahin**, Gulcem Altinoglu and Boran Sekeroglu. "Back Propagation Neural Network and
12. 18F-Florbetapir PET for Early Detection of Alzheimer's Disease", IEEE Nuclear Science Symposium and Medical Imaging Conference, Sydney, Australia, 2018
13. **IIker Ozsahin**, Boran Sekeroglu, Gulcem Altinoglu. "High Accuracy Automated Diagnosis of Parkinson's Disease", IEEE Nuclear Science Symposium and Medical Imaging Conference, Sydney, Australia, 2018
14. Berna Uzun, **IIker Ozsahin,** Nuhu Abdulhaqq Isa, Dilber Uzun Ozsahin. "Comparative Analysis of Common Scintillation Crystals in Emission Tomography Using Fuzzy PROMETHEE", IEEE Nuclear Science Symposium and Medical Imaging Conference, Sydney, Australia, 2018

15. **Ilker Ozsahin**, Musa Sani Musa. "Simulation of a High-Sensitivity Adjustable-FOV PET Scanner", IEEE Nuclear Science Symposium and Medical Imaging Conference, Sydney, Australia, 2018
16. **Ilker Ozsahin**, Tazeen Sharif,Dilber Uzun Ozsahin, Berna Uzun. "Evaulations Of Common Solid-State Detectors with Multi-Criteria Decision-Making Theory Fuzzy PROMETHEE", iWoRiD 20th International Workshop on Radiation Imaging Detectors, Sundsvall, Sweden, 2018
17. Musa Sani Musa, **Ilker Ozsahin**. "Simulation of New Scintillation Crystals for Brain PET", iWoRiD 20th International Workshop on Radiation Imaging Detectors, Sundsvall, Sweden, 2018
18. **Ilker Ozsahin**, Codi Gharagouzloo, Vasily Belov, Nathaniel M. Alpert, and Georges El Fakhri. "Awake Animal Functional Imaging to Investigate the Effects of General Anesthesia on Brain", ASET Engineering Innovations in Healthcare International Conference, Sharjah, UAE, 2018
19. Dilber Uzun Ozsahin, Nuhu Abdulhaqq Isa, Berna Uzun, **Ilker Ozsahin**. "Effective Analysis of Image Reconstruction Algorithms in Nuclear Medicine Using Fuzzy PROMETHEE", ASET Engineering Innovations in Healthcare International Conference, Sharjah, UAE, 2018
20. **Ilker Ozsahin**. "Awake Animal Imaging with MicroPET and Motion Tracking System", 14th Topical Seminar on Innovative Particle and Radiation Detectors (IPRD16), Siena, Italy, 2016
21. **I. Ozsahin**, M. Z. Unlu. "Modeling and simulation of Positron Emission Mammography (PEM) based on double-sided CdTe strip detectors", 13th Topical Seminar on Innovative Particle and Radiation Detectors (IPRD13), Siena, Italy, 2013
22. Mikhaylova E., Canadas M., De Lorenzo G., Chmeissani M., Arce P., Arino G., Cabruja, E., Calderon Y., Kolstein M., Gabriel Macias- Montero, J., Martinez, R., **Ozsahin I.,** Puigdengoles, C. Uzun D., "Simulation of pseudo-clinical conditions and image quality evaluation of PET scanner based on pixelated CdTe detector", IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain, 2011
23. Calderon Y., Kolstein M., Uzun D., De Lorenzo G., Chmeissani M., Arce P., Arino G., Cabruja, E., Canadas M., Gabriel Macias-Montero, J., Martinez, R., Mikhaylova E., **Ozsahin I.,** Puigdengoles, C., "Modeling, simulation and evaluation of a compton camera based on a pixelated solid-state detector", IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Spain, 2011
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