



Curriculum Vitae

KHALED M. ALJARRAH, PHD
Associate Professor of Medical Physics
Biophysics Laboratory
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Jordan University of Science and technology

Personal data:

Date of Birth: January 2nd, 1972
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Education

2006	University of Massachusetts Lowell, Ph.D., Radiological Sciences and Medical Physics Thesis title: "A New Method for Commissioning Monte Carlo Treatment Planning System"
2003	University of Massachusetts Lowell, M. Sc., Radiological Sciences
1998	Yarmouk University, Jordan, M. Sc., Physics Thesis title: "Analytical Study of Chemical Fertilizers Effect on the Potato Crops in Jordan using XRF Technique."
1994	Mu`Tah University, Jordan, B. Sc., Physics

Academic and administrative Experience

- 2016- Radiological Science Program Director, King Saud Bin Abdulaziz Univ. for Health science, Saudi Arabia.
- 2014- Quality unit chair, King Saud Bin Abdulaziz Univ. for Health science, Saudi Arabia
- 2014- Basic Science Chairman, King Saud Bin Abdulaziz Univ. for Health science, Saudi Arabia
- 2013- 2014 Faculty Member , King Saud Bin Abdulaziz Univ. for Health science, Saudi Arabia (Sabbatical leave)
- 2011 - 2013 Chairman of Physics Department / Jordan University of Science & Technology, Jordan
- 2011 - Associate Professor, Dept. of Physics, Jordan University of Science and Technology, Jordan
- 2010- Radiation Safety Officer (ROS) at Jordan University of Science and Technology (JUST) and King Abdullah University Hospital.
- 2010- 2011 Assistant Dean, Faculty of Science, Jordan University of Science and Technology, Jordan
- 2006 - 2011 Assistance Professor, Dept. of Physics, Jordan University of Science and Technology, Jordan
- 2003- 2005 Graduate Student Instructor, Dept. of Radiological Science, University of Massachusetts Lowell
- Classroom instructor for Radiation Safety and Control I and Radiation Biology. Graded exams, homework
- 2000-2003 Lab Assistant, Dept. of Physics, University of Massachusetts Lowell
- 1999-2000 Lecturer, Physics Department , Jordan University of Science and Technology, Jordan
- 1997-1999 High school physics teacher, Jordan Ministry of Education, Jordan
- 1996-1998 Teaching Assistant, Dept. of Physics, Yarmouk University, Jordan

Academic and administrative committees

1. College Research Committee
2. College Curriculum Committee
3. College Council Membership
4. College executive management group (EMG)
5. curriculum committee-college of science and arts
6. Institution Program Quality assurance and academic accreditation committee (QAAA)
7. Quality assurance and academic accreditation (QAAA) committee_ college co-chairman
8. Quality assurance and academic accreditation Unit (QAAA)-chairperson
9. Taskforce: program self-evaluation scale and self-study report
10. Program self-study executive committee
11. Task force for institutional research strategic planning
12. Program self-study executive committee
13. Project: King Saud Bin Abdulaziz university for health sciences accreditation project
14. College Unified assessment sub-committee
15. College Examination Committee
16. Assessment policies and procedures committee

17. Taskforce: Designing Applied Health Professions course (AHPE-211)
18. COVID-19 Crises Management Committee
19. Program Unified curriculum committee-college of science and health profession (COSHP)
20. College curriculum committee (COSHP)
21. Basic medical courses sub-committee (COSHP)
22. Basic Science courses sub-committee (COSHP)
23. Curriculum and student Assessment committee (COSHP)
24. English courses committee (COSHP)
25. Program Unified curriculum committee-college of applied medical science (COAMS)
26. Student Academic advising and career counselling unit.

Teaching Experience

Courses been taught

Phy 101 & 102: Freshman level, General Physics I&II
 Phy 103: Freshman level, General Physics for Medical students
 Phy 104: Freshman level, General Physics for Medical students
 Phy 105, 106& 107: Freshman level, general Physics labs
 Phy 283, senior level, Optics lab.
 Phy 251: Senior level, Modern physics.
 Phy 211: Properties of matter and heat
 Phy 281: Properties of matter and heat Lab
 Env. 301: Senior level, Radiation and environment.
 Phy 401: Senior level, Introduction to radiation biology
 Phy 441: Senior level, Introduction to Medical Imaging
 Phy 495: Senior level, Radiation Therapy, Special topics
 Phy 740: Graduate Course, Radiation physics
 Phy 783: Graduate Course, Medical physics
 Phy 795: Graduate Course, Special Topics
 Comprehensive Exam
 RADS 311 Radiation Physics
 RADS 312, Radiographic Exposure
 RADS 318, Radiation Protection & Radiation Biology
 RADS 319, Radiologic Imaging
 RADS 321, Quality Management
 RADS 413, Physics of CT

Clinical Experience

2002 -2006 *Clinical Physics Assistant*, Radiation Oncology Department, Massachusetts General Hospital, Boston, Massachusetts

- Performing patient IMRT QA (for several hundred patients)
- Conducting linac monthly and annual QA (for 4 years)
- Participating linac commissioning (for two linacs)
- Dosimetry equipment handling and measurements (e.g., TDL, Wellhofer, Ion chambers)
- Training in IMRT treatment planning

- Training in Brachytherapy seeds handling
- Taking courses for medical residents

Research Experience

- 1995-1998 *Research assistant*, Nuclear physics laboratory, Yarmouk University, Irbid, Jordan
- *X-ray fluorescence*: Quantitative and qualitative analysis of samples (Biological, soil, plant samples, etc...) including both wet and dried samples.
 - *Measurements of Radon-222* concentration in air, water, and soil using CR-39 detector; including experiment setup, data collection and analysis.
 - *Sample analysis using Gamma-spectrometry*; Samples were counted on a high purity Germanium-detector.
- 2001-2005 *Research Assistant*, Radiation Oncology, Massachusetts General Hospital, Boston, Massachusetts
- Monte Carlo simulation using OMEGA BEAM and MCSIM codes
 - Linac simulation
 - Beam commissioning for Varian Clinics
 - IMRT patients dose calculations
 - IMRT QA dose verification using a realistic lung phantom
- Summer, 2006 *Visiting Professor*, Radiation Oncology, Massachusetts General Hospital. Boston, Massachusetts.
- Feasibility study of IMRT QA using a realistic lung phantom
 - Clinical study to verify TPS lung dose calculation accuracy for IMRT lung patients
- Summer, 2007 *Visiting Professor*, Radiation Oncology, Moores cancer Center, University of California, San Diego.
- Lung IMRT dose verification.
 - Beam commissioning
- Summer, 2008 *Visiting Professor*, Radiation Oncology, Moores cancer Center, University of California, San Diego.
- Moving target dose verification
 - Prevent the dramatic spreading of Hookah smoking.
- 2008- *Radiation Biology, Projects*
- Photo-hemolysis
 - Medical application of Nanotechnology

Fields of Research

- Monte Carlo Simulation in radiation therapy
- Intensity Modulated Radiation Therapy (IMRT) dose verification.
- Health Physics: Radiation detection, protection, and dosimetry.
- Medical application of Nanotechnology
- Tobacco control

Workshops and Certificates

- Undergraduate exams, measurement, and evaluation, 2006
- Statistical analysis in scientific research, 2009
- Quality assurance in Nuclear Medicine, 2012
- Radiation officer, Jordan University of science and technology, 2008
- Ensuring a secure and safe nuclear infrastructure in Jordan, 2012
- Teaching Communication Skill, 7th Nov. 2013
- Examination Construction, 26th Nov. 2013
- Course specification and course reports, 26th Dec. 2013
- Program Evaluation Workshop, 12th Feb. 2014
- Expanding Horizon in Enhancing the Quality of Learning and Teaching, 16 Sept 2014
- Educational Objective, 5th Nov. 2014.
- Enhancing the Quality of Academic Programs, 26th April 2015
- Course Portfolio and NCAAA Course Report, 22nd Dec. 2015
- Assessment and Intended Learning Outcomes, 26th March 2015
- Certified KPI professional, 4th Feb 2015
- Certified KPI practitioner, 4th Feb 2015
- NCAAA Learning Outcome Workshop, 10th May, 2016
- Field experience specification, 2014
- Program specification, 2015
- Program Self-study report, 2016
- Formulation of program and course learning outcomes, 2019
- Fire and Life Safety General Orientation, Oct, 2013

Memberships in Scientific and Professional Societies:

- Jordanian Association for Physicists in Medicine (JAPM): since 2007.
- New England Chapter: since 2001.

Community Services

- Teaching medical physics course in Nusaiba nursing college
- Teaching medical imaging course in Nusaiba nursing college
- Radon Measurements and annual effective dose evaluation
- Tobacco and Hookah control and prevention

Collaborations

- University of California San-Diego, Radiation Oncology Department, USA
- University of California San Diego, Cancer Prevention & Control Program, USA
- Yarmouk University, Physics department, Jordan
- Radiation and environment, King Abdullah University Hospital, Jordan

Funded Research

- Clinical lung cancer study for dose calculation accuracy using Monte Carlo technique (66/2007)
- Introducing natural herb as a novel photodynamic drug: In vitro evaluation of photo hemolysis rate using Chinese chlorella. (91/2011)
- Using Silica Nanoparticles Encapsulated Safranin to Treat Breast Cancer Cells via Photodynamic Therapy, In-Vitro Study. (660/2022)
- Enhancing Photodynamic Therapy Efficacy for Breast Cancer Treatment through Encapsulating Malachite Green Photosensitizer by Silica Nanoparticles. (592,2022)

Certificate of appreciation and thank you letter

- Outstanding support and cooperation with Female department of pre-professional program, 2022
- Opening ceremony of KSAU-HS , KSA,2014institutional accreditation review, 2017
- Contribution and relentless support in accomplishing requirements of Muck survey for university institutional accreditation, 2016
- Supporting the process of academic institutional accreditation, 2017
- Contribution in self-evaluation scale and the self-study report of the institution, 2016
- Supporting and contributions for the pre-professional program during COVID-19 Pandemic,2021

Awards

- Full-time Scholar ship/Jordan University of Science and Technology, 1999
- Outstanding student, university of Massachusetts Lowell, 2004
- Certificate of Appreciation "Self –Evaluation Scales for Institution and Self–Study Report for Institution"

Languages

English (fluent) and Arabic (mother tongue)

Computer skills

- Operative systems: UNIX, Linux, Microsoft Windows.
- Programming languages: C, IDL; MATLAB
- E-learning, Smart board.
- Typesetting systems: Microsoft Word, PowerPoint, Excel, Grapher, Khalidaghrhaph, etc...

1. **Khaled Aljarrah**^{1*}, **M-Ali H. Al-Akhras**^{1*}, Ghaseb N. Makhadmeh², Tariq AlZoubi^{3*}, Abdulsalam Abuelsamen⁴, Samer H. Zyoud⁵, Ahmad M. AL-Diabat⁶, Osama Abu Noqta⁷, Azlan Abdulaziz⁸, Orhan Donmez³, Boosting the In-Vitro Effectiveness of Photodynamic Therapy on MCF-7 Breast Cancer Cells with Encapsulated Malachite Green by Silica Nanoparticles, Results in Materials, 2024.
2. Vasanthakumar Pakiriswamy, **Khaled Aljarrah**, Mr. Sameer E Tasslaq, Saikarthick Jayakumar, Satheesha B Nayak, Prevalence and radiological features of fabella in a Saudi Arabian population, Muscle, Ligaments and Tendons Journal, 2024, *accepted*
3. M-Ali H. Al-Akhras, Nisreen A. Al-Quraan, Zinab A. Abu-Aloush, Marwan S. Mousa, Tariq AlZoubi, Ghaseb N. Makhadmeh, Orhan Donmez, **Khaled Al jarrah**, Impact of magnetized water on seed germination and seedling growth of wheat and barley, Results in Engineering, Vol 22, 2024.
4. Packirisamy, V., **Aljarrah, K.** & Nayak, S.B. Morphometric evaluation of the orbital region for sex determination in a Saudi Arabian population using 3DCT images. *Anat Sci Int* **99**, 118–126 (2024)
5. **Al Jarrah K**, Al-Akhras MA, Makhadmeh GN, AlZoubi T, Abuelsamen A, Zyoud SH, Mhareb MA, Aziz AA, Abu Noqta O. A Novel Approach for Enhanced Osteosarcoma Photodynamic Therapy Using Encapsulated Methylene Blue in Silica Nanoparticles. *Journal of Composites Science*. 2023 Apr 4;7(4):137.
6. **K. Aljarrah**, M.-A.H. Al-Akhras, G.N. Makhadmeh, T. AlZoubi, M.M. Masadeh, M. Mhareb, S.H. Zyoud, O. Abu Noqta, Advancing Photodynamic Therapy Efficiency on MCF-7 Breast Cancer Cells through Silica Nanoparticles-Safranin Encapsulation: In-Vitro Evaluation, *Journal of Composites Science*, 7 (2023) 274.
7. N.Alanazi, Z. Iqbal, Akhtar T, A. M Khalid, A. Aleem, S. Shahzadi, A. Akram, M. Rasool, I. Shah, M. Khalid, M. Iqbal, **K. Aljarrah**, A. Mahmood, Association Of BCR-ABL Alternative Splice Variants with Disease Progression, Treatment Response and Survival in Chronic Myeloid Leukemia Patients Treated with Firstline imatinib Monotherapy, *Advancements in Life Sciences*, 9 (2023) 612-617.
8. M.K.M. Sajid, Z. Iqbal, **K. Aljarrah**, N. Al Anazi, A Paediatric English Linguistics Mediation on Spoken Language for Pakistani English-Speaking Parents of Deaf Children having Hearing Problems, *Linguistics and Education*, 69 (2022) 101056.
9. **K. Aljarrah**, V. Packirisamy, N. Al Anazi, S.B. Nayak, Morphometric analysis of foramen magnum and occipital condyle using CT images for sex determination in a Saudi Arabian population, *Morphologie*, 106 (2022) 260-270.
10. Z. Iqbal, N. Al Anazi, **K. Aljarrah**, M.M. Alomari, A. Bhalli, M.R. Abubaker, M.K. Rashid, M.K.M. Sajid, Investigations On The Effectiveness Of Online Teaching In English And Assessment In Clinical Laboratory Sciences During Covid-19 Pandemic, *NVEO-NATURAL VOLATILES & ESSENTIAL OILS Journal| NVEO*, (2021) 12726-12744.
11. N. Alanazi, S. Alabdullatif, M. Albahrani, M. Aljamaan, F. Alsayegh, A. Bhalli, **K. Aljarrah**, Z. Iqbal, Impact of Sick Cell Anemia on children growth and clinical parameters in Al-Ahsa region of Saudi Arabia, *Advancements in Life Sciences*, 8 (2021) 179-183.
12. Z.Q. Ababneh, M. Almusallam, I. Alfajri, A.M. Ababneh, **K.M. Aljarrah**, M.A. Tries, N. Al Anazi, Estimation of the Organ and Effective Dose to Patients Undergoing Medical Diagnostic X-Ray Examinations in Saudi Arabia, *Radiat. Prot. Dosim.*, 194 (2021) 1-8.
13. M.K.M. Sajid, H. Kassim, Z. Iqbal, **K. Aljarrah**, G.A. Hasan, N. Al Anazi, The Effects of Problem Based Learning on Reading Aloud Strategies for Pakistani Medical Students' Reading Comprehension in *Genetics & Molecular Biology*, *Solid State Technology*, 63 (2020).

14. M.K.M. Sajid, D.A.A.F. HafizoahKassim, G.A. Hasan, Z. Iqbal, Dr, **K. Aljarrah**, N. Al Anazi, An assessment of text reading habits of pakistani m. Phil. Levelstudents, PalArch's Journal of Archaeology of Egypt/Egyptology, 17 (2020) 2438-2451.
15. M.K.M. Sajid, H. Alsulaiteen, M.A. Alsaleh, F.S. Almulhim, M.A. Alabdulathim, A.A. Alzaid, A.M. Alanazi, A.A.E. Albutayh, O. Almulhim, R.H. Alabbad, The reading perception of medical staff about the use of prehospital ultrasound, European Journal of Public Health Studies, 2 (2020).
16. **K. Aljarrah**, D.J. Al-Khalili, Z. Ababneh, The feasibility of using Saffron to reduce the photosensitivity reaction of selected photosensitizers using red blood cells and staphylococcusAureus bacteria as targets, Photodiagnosis and Photodynamic Therapy, 29 (2020) 101590.
17. Z.Q. Ababneh, A.M. Ababneh, M.S.B. Hani, R.S. Ababneh, **K.M. Aljarrah**, Assessment of patient radiation dose during conventional diagnostic x-ray examinations in three public hospitals in Northern Jordan using TLDs, Health Phys., 118 (2020) 593-599.
18. M. Alqadi, O. Abo Noqtah, F. Alzoubi, J. Alzouby, **K. Aljarrah**, pH effect on the aggregation of silver nanoparticles synthesized by chemical reduction, Materials Science-Poland, 32 (2014) 107-111.
19. Z.Q. Ababneh, A.M. Ababneh, F.I. Almasoud, S. Alsagabi, Y.J. Alanazi, A.A. Aljulaymi, **K.M. Aljarrah**, Assessment of the committed effective dose due to the ^{210}Po intake from fish consumption for the Arabian Gulf population, Chemosphere, 210 (2018) 511-515.
20. H. Al-Khateeb, M. Nuseirat, **K. Aljarrah**, M.-A.H. Al-Akhras, H. Bani-Salameh, Seasonal variation of indoor radon concentration in a desert climate, Appl. Radiat. Isot., 130 (2017) 49-53.
21. H. Al-Khateeb, **K. Aljarrah**, F. Alzoubi, M. Alqadi, A. Ahmad, The correlation between indoor and in soil radon concentrations in a desert climate, Radiat. Phys. Chem., 130 (2017) 142-147.
22. M.-A.H. Al-Akhras, **K. Aljarrah**, B. Albiss, D. Al-Khalili, Influence of iron oxide nanoparticles (Fe_3O_4) on erythrocyte photohemolysis via photofrin and rose bengal sensitization, Photodiagnosis and Photodynamic Therapy, 18 (2017) 111-118.
23. M-Ali AL-Akhras,1, **Khaled Aljarrah**, Borhan Albiss, Abba Alhaji Bala, Continuous and delayed photohemolysis sensitized with methylene blue and iron oxide nanoparticles (Fe_3O_4), IOP Conference Series: Materials Science and Engineering, IOP Publishing, 2015, pp. 012003.
24. F. Alzoubi, J. Alzouby, M. Alqadi, H. Alshboul, **K. Aljarrah**, Synthesis and characterization of colloidal gold nanoparticles controlled by the pH and ionic strength, Chin. J. Phys., 53 (2015) 100801-100801-100801-100809.
25. M.-A.H. Al-Akhras, **K. Aljarrah**, G. Makhadmeh, A. Shorman, Introducing the effect of Chinese chlorella as a photosensitizing drug at different temperatures, J. Mol. Pharm. Org. Process Res, 1 (2013) e109.
26. **K. Aljarrah**, N.M. Mhaidat, M.-A.H. Al-Akhras, A.N. Aldaher, B. Albiss, K. Aledealat, F.M. Alsheyab, Magnetic nanoparticles sensitize MCF-7 breast cancer cells to doxorubicin-induced apoptosis, World journal of surgical oncology, 10 (2012) 1-5.
27. I. Aljarrah, O. Al-Khaleel, H. Al-Khateeb, **K. Aljarrah**, F. Alzoubi, A new method for measuring tracks density in CR-39 detectors by compensating for overlapping tracks, Radiation measurements, 47 (2012) 537-540.
28. H. Al-Khateeb, A. Al-Qudah, F. Alzoubi, M. Alqadi, **K. Aljarrah**, Radon concentration and radon effective dose rate in dwellings of some villages in the district of Ajloun, Jordan, Appl. Radiat. Isot., 70 (2012) 1579-1582.
29. M.-A.H. Al-Akhras, **K. Aljarrah**, H. Al-Khateeb, A. Jaradat, A. Al-Omari, A. Al-Nasser, M.M. Masadeh, A. Amin, A. Hamza, K. Mohammed, Introducing cichorium pumilum as a potential therapeutical agent against drug-induced benign breast tumor in rats, Electromagnetic Biology and Medicine, 31 (2012) 299-309.
30. A. Jaradat, M.-A.H. Al-Akhras, G. Makhadmeh, **K. Aljarrah**, A. Al-Omari, Z. Ababneh, M.M. Masadeh, H. Al-Khateeb, B. Albiss, M. Alshorman, Artificial semi-rigid tissue sensitized with

natural pigments: Effect of photon radiations, Journal of Pharmacy and Bioallied Sciences, 3 (2011) 266.

31. **K. Aljarrah**, T. Pawlickj, A. Niemierko, A clinical study of MLC-based IMTT lung dose calculation accuracy on plan evaluation parameters, J Cancer Sci Ther, 2 (2010),74-81
32. **K. Aljarrah**, T. Pawlicki, N. Tyagi, S.B. Jiang, Evaluation of IMRT QA point measurement rocesses using a commercial heterogeneous phantom, J Cancer Sci Ther, 2 (2010), 63-69.
33. Z.Q. Ababneh, A.M. Alyassin, **K.M. Aljarrah**, A.M. Ababneh, Measurement of natural and artificial radioactivity in powdered milk consumed in Jordan and estimates of the corresponding annual effective dose, Radiat. Prot. Dosim., 138 (2010) 278-283.
34. **K. Aljarrah**, Z.Q. Ababneh, W.K. Al-Delaimy, Perceptions of hookah smoking harmfulness: predictors and characteristics among current hookah users, Tobacco induced diseases, 5 (2009) 1-7.
35. M. Al-Akhras, H. Ali, **K. Aljarrah**, A. Al-Omari, H. Al-Khateeb, B. Albiss, K. Azez, G. Makhadmeh, Influence of extremely low energy radiation on artificial tissue: Effects on image quality and superficial dose, Spectroscopy, 22 (2008) 419-428.
36. **K. Aljarrah**, G.C. Sharp, T. Neicu, S.B. Jiang, Determination of the initial beam parameters in Monte Carlo linac simulation, Medical physics, 33 (2006) 850-858.
37. T. Neicu, **K.M. Aljarrah**, S.B. Jiang, A software tool for 2D/3D visualization and analysis of phase-space data generated by Monte Carlo modelling of medical linear accelerators, Physics in Medicine & Biology, 50 (2005) N257.
38. K. Aljarrah, S. Flampouri, C. Pope, S. Jiang, SU-FF-T-143: Evaluation of the Lung Dose Calculation Accuracy for An IMRT Planning System, Medical Physics, 32 (2005) 1982-1983.
39. H.A. Shih, S.B. Jiang, **K.M. Aljarrah**, K.P. Doppke, N.C. Choi, Internal target volume determined with expansion margins beyond composite gross tumor volume in three-dimensional conformal radiotherapy for lung cancer, International Journal of Radiation Oncology* Biology* Physics, 60 (2004) 613-622.
40. T. Neicu, S. Flampouri, D. Gierga, **K. Aljarrah**, S. Jiang, A Monte Carlo study on the effect of respiratory motion on lung IMRT dose distributions, MEDICAL PHYSICS, AMER ASSOC PHYSICISTS MEDICINE AMER INST PHYSICS STE 1 NO 1, 2 HUNTINGTON, 2004, pp. 1749-1749.
41. T. Neicu, R. Berbeco, G. Sharp, S. Flampouri, **K. Aljarrah**, S. Jiang, Patient breathing coaching using the real position management system, Med. Phys, 31 (2004) 1907.
42. S. Flampouri, K. Doppke, **K. Aljarrah**, D. Gierga, S. Jiang, A Monte Carlo study on the effect of respiratory motion on lung IMRT dose distribution, RADIOOTHERAPY AND ONCOLOGY, ELSEVIER IRELAND LTD ELSEVIER HOUSE, BROOKVALE PLAZA, EAST PARK SHANNON, 2004, pp. S341-S341.
43. S. Flampouri, **K. Aljarrah**, S. Jiang, Monte Carlo based patient dose reconstruction from portal images for image guided adaptive radiotherapy, MEDICAL PHYSICS, WILEY 111 RIVER ST, HOBOKEN 07030-5774, NJ USA, 2004, pp. 1821-1822.
44. S.B. Jiang, C. Pope, **K.M. Al Jarrah**, J.H. Kung, T. Bortfeld, G.T. Chen, An experimental investigation on intra-fractional organ motion effects in lung IMRT treatments, Physics in Medicine & Biology, 48 (2003) 1773.

Conferences and Conference Abstracts

1. M.-A.H. Al-Akhras, M.A. Shorman, M.M. Masadeh, **K. Aljarrah**, Z. Ababneh, Modeling the effect of rose Bengal on growth and decay patterns of Pseudomonas aeruginosa, Escherichia coli

and Staphylococcus aureus, IOP Conference Series: Materials Science and Engineering, IOP Publishing, 2018, pp. 012004.

2. **K Aljarrah**, GC Sharp, T Neicu, SB Jiang, “A Systematic Study On The Determination of Initial Beam Parameters in Monte Carlo Linac Simulation,” 46th Annual Meeting of the American Association of Physicists in Medicine, July 2004.
3. T Neicu, RI Berbeco, GC Sharp, S Flampouri, **K Aljarrah**, SB Jiang, “Patient Breathing Coaching Using The Real Position Management System” 46th Annual Meeting of the American Association of Physicists in Medicine, July 2004.
4. SB Jiang, CJ Rivinius, **KM Al Jarrah**, JH Kung, T Bortfeld, GTY Chen, “Experimental Investigation On Interplay Effect Between DMLC Leaf Motion and Respiration-Induced Tumor Motion in Lung IMRT Treatment”, 44th Annual Meeting of the American Association of Physicists in Medicine, July 2002.
5. **K Aljarrah**, C Pope, SB Jiang,” Verification of the Lung Dose Calculation of a Commercial IMRT Planning System Using a Realistic Lung Phantom”, 48th Annual Meeting of the American Association of Physicists in Medicine, July 2006.
6. **K Aljarrah**, A Niemierko, SB Jiang, “Clinical Study to Evaluate the Dose Calculation Accuracy for IMRT Lung Patients” 49th Annual Meeting of the American Association of Physicists in Medicine, July 2007.
7. Sixth Symposium on Use of Nuclear Techniques in Environmental Studies. Sept.
a. 16-18, 2006. Yarmouk University, Irbid, Jordan.
8. Symposium on the Technology of Peaceful Nuclear Energy. Center of Theoretical and Applied Physical Sciences (CTAPS), Yarmouk University. Irbid-Jordan. Oct. 14-16, 2008.
9. Seventh Symposium on Use of Nuclear Techniques in Environmental Studies, Sept. 4-6, 2007. Irbid, Jordan.
10. Annual Meeting of the German Biophysical Society, **23-26 September 2012 • Goettingen / Germany**

References

Provided as requested.