Curriculum Vitae

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Personal:

Citezinship: Jordan.

Date of Birth: 2/12/1971

Martial Status: Married

Education:

Certificate	Bachelor	Master	Doctorate
Field	Physics	Physics	Physics
Specific specialization	Physics	Radiation	Applied Radiation (Medical Dosimetery)
Year	1994	1998	2007
Institution	Yarmouk University	Jordan University	Universiti Putra Malaysia
Place	Jordan	Jordan	Malaysia

Titles of theses:

Synthesis and Characterization of Polyhydroxyethylacrylate and Polyhydroxyethylmethacrylate Gel Dosimeters. **Ph.D Thesis**. Universiti Putra Malaysia, 43400 UPM, Malaysia, 2007.

Determination the Concentration of ^{137}Cs, ^{40}K and ^{238}U in Soil Samples from Jordan. **MSc Thesis**. Jordan University, Amman, Jordan, 1998.

Referees:

1. Prof. Dr. Elias Saion
Physics Department/ Supervisor
Faculty of Science, Universiti Putra Malaysia (UPM)
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2. Prof. Dr. Ahmed Ali Basfar
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3. Dr. Belal Ali Moftah
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King Faisal Specialist Hospital & Research Centre.
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Experience:

13th Sep 2017- present, Head of Medical Imaging department, Faculity of Applied Medical Science, Hashemite University, Jordan.

7th Sep 2009- present, Medical Imaging department, Faculity of Applied Medical Science, Hashemite University, Jordan.

29th Dec 2018– 12th Jan 2019, Visiting Consultant, (Developing 3D Fricke Gel Dosimeters for Radiation Therapy) at Biomedical Physics Department, Research Center, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia.

10th– 26th Aug 2017, Visiting Consultant, (Developing 3D Fricke Gel Dosimeters for Radiation Therapy) at Biomedical Physics Department, Research Center, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia.

6th– 20th Sep 2014, Visiting Consultant, (Developing 3D Fricke Gel Dosimeters for Radiation Therapy) at Biomedical Physics Department, Research Center, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia.

25th May 2013 – 7th Aug 2013, Radiation Physcis Researcher, (Developing 3D Gel Dosimeters for Radiation Therapy) at Biomedical Physics Department, Research Center, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia.

30th May 2012 – 12th Sep 2012, Radiation Physcis Researcher, (Developing 3D Gel Dosimeters for Radiation Therapy) at Biomedical Physics Department, Research Center, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia.

25th May 2011 – 1st Fib 2012, Radiation Physcis Researcher, (Developing 3D Gel Dosimeters for Radiation Therapy) at Biomedical Physics Department, Research Center, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia.

15th Jan – 28th Jan 2011, Visiting Research Scientist, (Low and High doses radiochromic dosimetes) at Atomic Energy Research Institute, King Abedulaziz City for Sceince and Technology, Riyadh, Saudi Arabia.

25th May – 10th Aug 2010, Visiting Research Scientist, (Low and High doses radiochromic dosimetes) at Atomic Energy Research Institute, King Abedulaziz City for Sceince and Technology, Riyadh, Saudi Arabia.

15th Jan – 2ed Feb 2010, Visiting Research Scientist, (Low and High doses radiochromic dosimetes) at Atomic Energy Research Institute, King Abedulaziz City for Sceince and Technology, Riyadh, Saudi Arabia.

8th March 2008- 13th August 2009 , Radiation Physcis Researcher, (Low and High doses radiochromic dosimetes) at Atomic Energy Research Institute, King Abedulaziz City for Sceince and Technology, Riyadh, Saudi Arabia.

2007 (1st Aug to 25th Sep) A training course in Oncology Clinical Department, University Malaya Medical Centre, Malaysia
1995- 2004: Teacher of physics, high schools of Jordanian Ministry of Education

1997- 1998: Teaching Assistant. Physics department, Jordan University

Teaching Experience:

- Medical physics
- Principles of Radioactivity
- Radiation Safety and Protection
- Radiobiology
- Radiotherapy
- Radiographic Processing & Exposure
- Image Quality Control
- Nuclear Medicine
- Molecular Imaging
- Special Topics in Medical Imaging
- Diagnostic Ultrasound
- Computed Tomography (CT)

Publications:

1-Patents:

1- **Rabaeh, K. A**., Aldweri, F. M., Alahmad, K. N. 2019. Method of making radiochromic dosimeter using calcein dye. United States Patent and Trademark Office (USPTO). Patent no.: US 10, 209, 368 B2.
2- Ahmed A. Basfar, **Khalid A. Rabaeh**. Method of forming a film of novel composition for adosmeter. ***United States Patent and Trademark Office (USPTO).*****2014**. Patent no.:US 8,691,135B2.
3- Ahmed A. Basfar, **Khalid A. Rabaeh,** Akram Almousa**.** High Dose Film Dosimeter Based on Nitro Blue Tetrazolium and Polyvinyl Butyral for Radiation Processing. ***European Patent Office (EPO).***2015.Patent no.:EP 2 395 045 B1.
4- Ahmed A. Basfar, Belal B, Moftah, **Khalid A. Rabaeh,** Akram Almousa. Method of manufacturing a nitro blue tetrazolium and polyvinyl butyral based dosimeter film. ***United States Patent and Trademark Office (USPTO).***2016**.** Patent no.:US9234081B2**.**
5- Ahmed A. Basfar, **Khalid A. Rabaeh,** Akram Almousa A Polymerizable composition, method of making the composition and its use in a dosimeter. ***European Patent Office (EPO).***2016**.** Patent no.: EP 2 803 682 B1.
6- طريقة تحضير فلم لقياس الجرعات الاشعاعية العالية. المكتب السعودي لبراءات الاختراع. رقم البراءه: 3844 .2015

2-Patent Applications:

Basfar, A. A.,**Rabaeh, K. A.,** Almousa**,** A. 2016. Method of Making A Radio-Chromic Films Dosimeter Containing Dethizone Dye and Polystyrene binder to be Used for High dose Application.***USA Patent Office***

Basfar, A. A., Moftah, B., **Rabaeh, K. A.,** Almousa**,** A. 2014. Method Of Using The Novel Polymer Gel For Magnetic Resonance Imaging (Mri) Validation. ***USA Patent Office***

3-Papers:

Rabaeh K. A., Hailat, T. F., Eyadeh, M. M., Al-Shorman, M Y., Aldweri, F M., Alheet, S M., Madas, B. G., Awad, S. I. 2020. Dosimetric properties of sulfosalicylic acid-ferrous-polyvinylalcohol glutaraldehydehydro gel dosimeters using magnetic and optical techniques. *Radiation Measurements*, 177, 109106

Moftah, B., Basfar, A., Almousa, A., Al Kafi, A. and **Rabaeh, K. A**., 2020. Novel 3D polymer gel dosimeters based on N-(3-Methoxypropyl)acrylamide (NMPAGAT) for quality assurance in radiation oncology. *Radiation Measurements*, 135, 106372.

Rabaeh, K. A., Basfer, A. 2020. A polystyrene film dosimeter containing dithizone dye for high dose applications of gamma-ray source. Radiation Physics and Chemistry 170, 108646.

Rabaeh, K. A., Basfer, A. 2020. Optical evaluation of dithizone solution as a new radiochromic dosimeter. *Pigment & Resin Technology*. 49, 249-253.

AL Zahrany, A., **Rabaeh, K. A.,** Eyadeh, M. M., Basfer, A Dosimetric evaluation of methyl red radiochromic film for radiation processing. 2020. Pigment & Resin Technology. In press.

Eyadeh, M M., **Rabaeh, K. A**., Aldweri, F M., Al-Shorman, M Y., Alheet, S M., Awad, S. I., Hailat, T F.2019. Nuclear magnetic resonance analysis of a chemically cross-linked ferrous–methylthymol blue–polyvinyl alcohol radiochromic gel dosimeter. *Applied Radiation and Isotopes.153: 108812*.

Awad, S. I., Moftah, B., Basfer, A., Almousa, A.A., Al Kafi, M. A., Eyadeh, M. M., **Rabaeh, K. A**. 2019. 3-D Quality Assurance In Cyberknife Radiotherapy Using A Novel N-(3-Methoxypropyl) Acrylamide Polymer Gel Dosimeter And Optical CT. *Radiation Physics And Chemistry* 161: 34-41**.**

Rabaeh k A, Al-Ajaleen M S, Abuzayed M H, Aldweri F M, Eyadeh M M. 2019. High dose sensitivity of N-(isobutoxymethyl)acrylamide polymer geldosimeters with improved monomer solubility using acetone co-solvent. Nuclear Inst. and Methods in Physics Research B. 442, 67–72.

Rabaeh, K A.; Eyadeh, M M.; Hailat, T F.; Aldweri, F M, Alheet, S M.; Eid, R M. 2018. Characterization of ferrous-methylthymol blue-polyvinyl alcohol gel dosimeters using nuclear magnetic resonance and optical techniques. *Radiation Physics and Chemistry*.148, 25-32.

Eyadeh, M M, **Rabaeh, K A**., Hailat, T F., Al-Shorman, M Y. 2018. Investigation of a novel chemically cross-linked fricke-Methylthymol blue-synthetic polymer gel dosimeter with glutaraldehyde cross-linker. Radiation Measurements. 118, 77-85.

Eyadeh, M M.; **Rabaeh, K A**.; Hailat, T F.; Aldweri, F M. 2018. Evaluation of ferrous Methylthymol blue gelatin gel dosimeters using nuclear magnetic resonance and optical techniques. Radiation mesurements, 108, 26-33

Aldweri, F M.; Abuzayed, M H.; Al-Ajaleen, M S.; **Rabaeh, K A.** 2018. Characterization of Thymol blue Radiochromic dosimeters for high dose applications. Results in Physics, 8,1001-1005.

Rabaeh, K. A., Basfar, A. A., Almousa**,** A., Slobodan D., Moftah, B. 2017. New NormoxicN-(Hydroxymethyl)acrylamide Based Polymer Gel For 3D Dosimetry in Radiation Therapy. *Physica Medica*.33, 121-126.

Aldweri, F M., **Rabaeh, K. A**., Al-ahmad, K N. 2017. Novel Radiochromic Dosimeters Based on Calcein Dye for High Dose Applications. *Radiation Physics and Chemistry*. 139, 1-4.

Basfar, A. A., Moftah, B., **Rabaeh, K. A.,** Almousa**,** A., 2015**.** Novel composition of polymer gel dosimeters based on N-(Hydro- xymethyl)acrylamide for radiation therapy**.** *Radiation Physics and Chemistry*. *112,117-120*.

Rabaeh, K. A., Basfar, A. A., Moussa, A. A., & Msalam, R. I. 2013 Novel Radio-chromic solution dosimeter for radiotherapy treatment planning. *Physica Medica*. *29,374-378*.

Basfar, A. A., **Rabaeh, K. A**., Moussa, A. A. 2012. Improved performance of nitro-blue tetrazolium polyvinyl butyral high dose film dosimeters. *Radiation Measurements. 47*, 1005-1008.

Rabaeh, K. A., Basfar, A. A., Moussa, A. A., 2012. Enhancement in sensitivity of nitro blue tetrazolium polyvinyl alcohol film dosimeters by sodium formate and Triton X-100. *Radiation Physics and Chemistry*. 81, 479-483

Al Zahrany, A. A., **Rabaeh, K. A**., & Basfar, A. A. 2011. Radiation-induced color bleaching of methyl red in polyvinyl butyral film dosimeter. *Radiation Physics and Chemistry, 80*(11), 1263-1267.

Basfar, A. A., **Rabaeh, K. A**., Moussa, A. A., & Msalam, R. I. 2011. Dosimetry characterization of nitro-blue tetrazolium polyvinyl butyral films for radiation processing. *Radiation Physics and Chemistry, 80*(6), 763-766.

Ali, M. A., Saion, E., Al-Zahrany, A. A., Noorhana, Y., Dahlan, K. M., Kassim, A., **Rabaeh, K. A**. 2010. Optical radio-chromic properties of polyaniline film irradiated with gamma radiation. *Journal of Engineering Science and Technology, 5*(2), 246-252.

Rabaeh, K. A.,Saion, E, Ali, M., Iskandar Shahrim, Azhar A. Alrahman, Hussain. M. 2008. Rate of Elapsed Polymerization of Hydroxyethylacrylate Gel Induced by Gamma Radiation. *Nuclear Science and Techniques, 19, 218-222.*

Rabaeh, K. A., Saion, E, Ali, M., Iskandar Shahrim, Azhar A. Alrahman, Hussain. M. 2008. Enhancements in 3D Dosimetry Measurement using Polymer Gel and MRI. *Radiation Measurements, 43,1377-1382.*

4- Conferences

Radiation induced Polymerization of N-(Hydroxymethyl) Acrylamide Polymer Gel Dosimeters for Radiation Therapy.2016. 2nd International Conference on Medical Physics and Biophysics. Spain

Improved Dose Sensitivity of N-(isobutoxymethyl)acrylamide Polymer Gel Dosimeters for Radiation Therapy. 2018. European Congress of Medical Physics (ECMP2018)

Future Research and Activites:

In my future works, I have potential expected reseaches that could be implemented as follows:

- 3D reusable dosimetry For radiotherapy treatment planning system.
- Low dose radio-chromic gel and film dosimeters for medical applications
- High dose radio-chromic film dosometers for sterilization and industiral applications.
- Nano-emulsion particles of organic oil-in-water for anti cancer diseases and drug delivery.
- Polyaniline nanocomposites for radiotherapy dosimetry.
- Polymer nanocomposites for biosensors applications.