

MOAYYAD AL SSABBAGH

Ph.D.

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EDUCATION

- 2014 to 2018 **Ph.D. in Health/Medical Physics, Universiti Sains Malaysia**, Penang, Malaysia
- 2012 to 2013 **Master in Medical Physics, University of Malaya**, Kuala Lumpur, Malaysia
- 2006 to 2007 **High diploma** in Radiation Protection and Safety of Radiation Sources, Syria, **Damascus University**, with Very Good degree.
- 1993 to 1998 **B.Sc. in Applied Medical Physics, Applied Science Private University**, Amman, Jordan

MAJOR RESEARCH EXPERIENCE

- Testing different 3D printing materials for evaluation of tissue equivalent materials.
- Design and fabrication of a novel 3D dynamic anatomical thyroid phantom to fit different age groups using a new 3D printing tissue equivalent substitute.
- Using a new technique to evaluate different phantom materials using different multi-detector CT scan models.
- Developed a new technique to simulate the biokinetics of Tc-99m inside the thyroid gland .
- Evaluate the radiation dose to the thyroid from SPECT/CT imaging.

WORK EXPERIENCE

- 2012 - Still **Head of licensing department Energy & Minerals Regulatory Commission**, Amman, Jordan
- 2008 to 2012 **Head of Licensing Department, Jordan Nuclear Regulatory Commission**, Amman, Jordan
- 2003 to 2008 **Radiation protection inspector, Jordan Atomic Energy Commission**, Amman, Jordan
- 2001 to 2003 **Radiation protection inspector, Ministry of Energy and Mineral Resources**, Amman, Jordan
- 2000 to 2001 **Web designer & web developer, eSolutions for Network services**, Amman, Jordan

RESPONSIBILITIES AND DUTIES *(at current workplace)*

- Lecturer in several Seminars, Training, Symposiums and other occasions including radiation protection courses.
- Ensuring Radiation Protection Requirements, Safety and Control of Radiation Sources in Radiological Facilities and Activities, and conducting of Radiation Inspections for several radiation practices.
 - Review radiation applications for authorization of site, construction and use, including radiation protection program for different types of radiation practices
 - Conducting Radiation Inspection to verify the suitability of radiation protection program, safety and security provisions of the radiation sources.
 - Ensuring appropriate license conditions in according to the applications.
 - Studying Import, Export and Re-Export applications transferred from Jordan Custom with selected HS-code numbers, and giving requested permissions upon regulations.
 - Receiving and investigate incident and accident reports.
 - Ensure that facilities, equipment and work performance meet all necessary radiation protection, safety and security requirements.
 - Issuing the radiation licenses for all practices
- Preparation, Drafting and Implementing the Regulatory Legal Framework, including the Comprehensive Nuclear and Radiological Law.
- Conducting several dose assessments and shielding measurements and radiation safety review for Nuclear and Radiological Facilities
- Keep maintaining the licensing program for the issuance of radiation practices, including the radiation sources inventory system
- Supervise radiation protection and safety of radiation sources.

TRAINING & CONFERENCES

19 - 20 Aug 2017	Conference (Speaker): 3rd International Conference on Radiation Safety & Security in Healthcare Services. <i>Penang, Malaysia</i>
9-12 Dec. 2016	Conference (Speaker): 22nd International Conference on Medical Physics Organizing Committee, 16 th AOCMP and 14th SEACOMP. <i>Bangkok, Thailand.</i>
17-18 Oct 2016	Conference (Speaker): 2nd International Postgraduate Conference on Applied Science and Technology (IPCAST 2016) at <i>Langkawi, Malaysia</i>
26 - 28 Jan 2016	Conference (Speaker): 2nd AMDI International Biohealth Sciences Conference 2016 Conference (IBSC 2016). <i>Penang, Malaysia</i>
10 - 12 Dec 2015	Conference (Speaker): 13th South East Asia Congress of Medical Physics 2015 (SECOMP), <i>Yogyakarta, Indonesia</i>
26-28 Oct, 2015	Conference (Speaker): 2nd Postgraduate Colloquium on Translational Research. AMDI, USM. <i>Penang, Malaysia</i>

11 – 14 Dec 2013	Conference (Speaker): 13th Asia-Oceania Congress of Medical Physics (AOCMP) & 11th South-East Asian Congress of Medical Physics (SEACOMP). <i>Singapore, Singapore</i>
15 – 20 July 2012	Workshop on Laying the Foundation for Nuclear Security Culture: The roles and responsibilities of Scientists, Technicians, Engineers and Academics, Hosted by Partnership for Nuclear Security. <i>Orlando, Florid - USA</i>
7 – 10 Oct, 2010	Conference: AAPM-ISEP in the 1st National Conference on Therapeutic and Diagnostic – Medical Physics. <i>Amman –Jordan</i>
Apr - 2009	Training course: International Border Interdiction training "IBIT I". <i>McAllen-Texas-USA</i>
22 – 27 Mar, 2009	IAEA Regional Workshop for Sharing Experience in the Application of knowledge Management (KM) Methods for Competence Building. <i>Dhaka, Bangladesh</i>
8 May - 7 July 2006	Fellow ship at National Research Institute for Radiobiology and Radiohygiene Fredric Joliot Curie, in the field of: Regulatory Infrastructure for Radiation and Waste Safety. <i>Budapest, Hungary</i>
27 Feb -3 Mar 2006	Regional workshop on the Regulatory Authority Information System (RAIS-3), <i>Vienna – Austria</i>
5-9 Feb 2005	Regional workshop on the Regulatory Authority Information System (RAIS-3), <i>Sana'a – Yemen</i>
24 Aug - 4 Sep 2002	Training Course in Regulatory Authorization and Inspection of Medical Practices. <i>Dubai, United Arab Emirates</i>
3/2004 – 8/2004	Jordan Hospital: Training in Nuclear medicine department, Amman - Jordan
1 month - 1999	Malhas Hospital: Trained on CT scan and X-Ray Photographing Devices, Amman - Jordan
2 month - 1998	Al-Bashir Hospital Internship in radiotherapy Section. Amman - Jordan

PUBLICATIONS

PUBLISHED PAPERS:

- **Alssabbagh, M.**, Tajuddin, A. A., AbdulManap, M., & Zainon, R. (2016). Evaluation of the attenuation values of polyethylene as a tissue equivalent of human thyroid for dosimetry purposes using single-energy and dual-energy computed tomography. *Advances in Environmental Biology*, 10(10), 131–138.
- **Alssabbagh, M.**, Tajuddin, A. A., Abdulmanap, M., & Zainon, R. (2017). Evaluation of 3D printing materials for fabrication of a novel multi-functional 3D thyroid phantom for medical dosimetry and image quality. *Radiation Physics and Chemistry*, 135, 106–112.
- **Alssabbagh, M.**, Tajuddin, A. A., Bin, M., Manap, A., & Zainon, R. (2017). Evaluation of nine 3D printing materials as tissue equivalent materials in terms of mass attenuation coefficient and mass density. *International Journal of Advanced and Applied Sciences*, 4(9), 168–173.
- **Alssabbagh, M.**, Tajuddin, A., Manap, M. A., & Zainon, R. (2017). Fabrication of a thyroid phantom for image quality in nuclear medicine using the 3D printing technology. *ARNP Journal of Engineering and Applied Sciences*, 12(9), 2798–2802.
- **Alssabbagh, M.**, Tajuddin, A. A., Abd Manap, M., & Zainon, R. (2016). Measurement of Attenuation Values Using Single-Energy and Dual- Energy Computed Tomography. *Journal of Biomedical and Clinical Sciences*, 1(December), 2016.

- **Alsabbagh, M.**, Ng, L. Y., Tajuddin, A. A., Manap, M. A., & Zainon, R. (2016). Validation of a paediatric thyroid phantom using different multidetector computed tomography models. *Journal of Physics: Conference Series*, 694(1), 12047.
- **Alsabbagh, M.**, Tajuddin, A. A., Manap, M. A., & Zainon, R. (2016). Fabrication of a 3D Printing Thyroid Phantom for Image Quality Evaluation in Nuclear Medicine. *Medical Physics International*, 4(2), 2016.

CONTRIBUTED PAPERS:

- Ng LY, **Alsabbagh M**, Tajuddin AA, Shuaib IL, Zainon R. *International Journal of Advanced and Applied Sciences* Development of an automated multi-thresholding technique for identification of different materials types and concentration using CT scans. 2018;5(3):1–7.
- Ng, L. Y., **Alsabbagh, M.**, Tajuddin, A. A., Shuaib, I. L., & Zainon, R. (2017). Development of a thresholding algorithm for calcium classification at multiple CT energies. *Journal of Physics: Conference Series*, 851(1).
- Yean, N. L., **Alsabbagh, M.**, Aziz, A., Tajuddin, B., Lutfi, I., Shuaib, B., Zainon, R.B & Shakhreet, B. Z. (2016). Liver Tissue Characterization Using Dual-Energy Computed Tomography. *IOSR Journal of Dental and Medical Sciences*, 15(10), 60–67

PATENT APPLICATION

Malaysian Patent Application NO. PI 201770353

(Thyroid phantom device for radiation dosimetry and image quality assessment.)

HONORS AND AWARDS

- Silver medal: 8th Exposition on Islamic Innovation (i-Inova) 2018.
- Silver medal: International Conference and Exposition on Inventions by Institutions of Higher Learning (PECIPTA2017).
- Silver medal: Penang Invention, Innovation and Research Design Platform (PIID2017).

COMMUNICATION, SKILLS & ACHIEVEMENTS

- Arabic (Native).
- English Written and Oral (Excellent).
- Professional in Microsoft Word, Excel, Access, PowerPoint, Outlook Express, Microsoft Windows and Apple (Mac OS X and IOS) operating system
- Good experience on MatLab® software
- Web developer: PHP, Java script, CSS, HTML and MySQL database server
- Web designer: Adobe Photoshop, Adobe Illustrator, Macromedia Flash
- Developed a software to count the tracks on CR-39 detectors by using MatLab software.
- Developed the Radiation licensing software: Still used in EMRC to issue the personal and practices radiation licenses.

- Developed Radiation sources inventory software: still used in EMRC for recording, register and control the movement of radiation sources in Jordan.
- Multitasking, work independently using my own initiative or as part of a team.
- Confident, articulate, empathic listener and persuasive speaker.
- Excellent in speaking in presentations and meetings.

PROFESSIONAL ASSOCIATIONS

- Jordanian Association for Physicist in Medicine (JAPM) since 2007
- JAPM amanuensis (Secretary) 2009 - 2011

REFERENCES

- References available upon request.