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Dr. MOHAMMED A. ALKHORAYEF

Personal Information

Nationality: Saudi Arabia
Place of Birth: Riyadh, Saudi Arabia

Summary of qualifications

2010 University of Surrey Guildford, UK
Doctor of Philosophy PhD - Medical Physics in the field of **positron emission tomography (PET) imaging.**

2004 University of Surrey Guildford, UK
Master's Degree of Science in Medical Physics.

2000 King Saud University Riyadh, Saudi Arabia
Bachelor Degree of Applied Medical Sciences in the field of **Radiological Sciences**

Professional experience

01/05 – 09/05 (1) Hammersmith Hospital, PET research centre (Imanet), London, UK. (2) Guy's and St Thomas' Hospital, London, UK.
Trainee Medical Physicist

03/04 – 04/04 Royal Marsden Hospital & Brompton Hospital, London, UK
Training during MSc study program

01/00 – 01/01 Riyadh Medical Hospital, Riyadh, Saudi Arabia
Internship as Technologist

06/99 – 09/99 Aramco Hospital, Dhahran, Saudi Arabia
Trainee Student Technologist

09/96 – 01/00
Training during BSc study program at various hospitals in Riyadh including:

- Conventional X-ray, Magnetic Resonance Imaging (MRI), Computerized Tomography (CT), Ultrasonography, Nuclear Medicine Technology, Radiotherapy Planning.

Teaching experience

10/10 – Ongoing Radiological Sciences Department, College of Applied Medical Sciences, King Saud University, Riyadh, Saudi Arabia.

Assistant Professor

- Teaching BSc students (mainly lecturing on physics for nursing, medical imaging modalities, nuclear medicine technique).
- Assisting in the delivery of medical physics principle.

10/05 – 08/10 Centre for Nuclear and Radiation Physics, Department of Physics, University of Surrey, Guildford, UK

Teaching Assistant

- Teaching MSc medical physics students in the radiation laboratory.
- Co-supervision of MSc dissertations.

09/01 – 09/02 Radiological Sciences Department, College of Applied Medical Sciences, King Saud University, Riyadh, Saudi Arabia.

Teaching Assistant

- Teaching Diploma and BSc students (mainly lecturing on patient safety, medical imaging modalities, radiography clinical technique).
- Supervise student training in hospitals.
- Practical demonstrations in the field of Radiology (particularly in clinical technique).
- Assisting in the delivery of theory of radiographic practice.
- Coordinate examination timetable.

Publications

- **M. Alkhorayef**, E. Abuelhia, M.P.W. Chin, N.M. Spyrou. Determination of the relative oxygenation of samples by ortho-positronium 3γ decay for future application in oncology, Journal of Radioanalytical and Nuclear Chemistry, 281: (2) 171–174 (2009)
- **M. Alkhorayef**, E. Abuelhia, K. Alzimami, M. Marouli, M.P.W. Chin and N.M. Spyrou. Experimental comparison of the relative yield of 3γ/2γ positron annihilation using semiconductor and scintillation detectors, Journal of Radioanalytical and Nuclear Chemistry, 280: (2) 315–318 (2009).
- **M. Alkhorayef** and N.M. Spyrou. Measurement of 3γ/2γ positron annihilation ratios in selection of scintillation and semiconductor detectors, Nuclear Analytical Methods for the 21st Century, Trans. American Nuclear Society, 101: 111 (2009).
- **M. Alkhorayef** and N.M. Spyrou. Can we extract useful information from three-gamma decay in positron emission tomography for tumour hypoxia imaging?, Proceedings of SiC09 - The 3rd Saudi International Conference, Guildford, UK, 1:40 (2009).
- **M. Alkhorayef**, A. Tziakouris, K. Alzimami, M.P.W. Chin and N.M. Spyrou. Measurement of the relative yield of 3γ to 2γ positron annihilation using peak-to-peak and peak-to-valley methods. Abstracts' proceeding of MARC VIII - The 8th International Conference on Methods and Applications of Radioanalytical Chemistry, Kailua-Kona, Hawai'i, USA, 389:140 (2009)
- M.P.W. Chin, D. Seweryniak, **M. Alkhorayef** and N.M. Spyrou. Variation of 3γ-to-2γ ratio from F-18 in haematological components measured using the GAMMASPHERE, Nuclear Instruments and Methods in Physics Research A 604: (2) 331–334 (2009).
- K. Alzimami, S. Sassi, **M. Alkhorayef**, A.J. Britten, N.M. Spyrou, Optimisation of computed radiography systems for chest imaging, Nuclear Instruments and Methods in Physics Research Section A 600: (2) 513-518 (2009).
- N.M. Spyrou, K. Alsafi, **M. Alkhorayef** , Comparison of Radiation Exposure to Staff in Mobile and Static PET/CT Units, Trans. American Nuclear Society, 100: 31(2009).
- **M. Alkhorayef** and N.M. Spyrou. Factors that affect dissolved oxygen in biological samples in the imaging of tumour hypoxia using three gamma positron emission tomography. Proceedings of SiiC08 - The 2nd Saudi International Innovation Conference, Leeds, UK, 1:46 (2008).
- E. Abuelhia, K. Alzimami, **M. Alkhorayef**, Z. Podolyák and N.M. Spyrou. Measurement of coincidence timing resolution of scintillation detectors compared to semiconductor detectors to image three-photon positron annihilation, Journal of Radioanalytical and Nuclear Chemistry, 278: (3) 767-771(2008).
- K. Alzimami, S. Sassi, **M. Alkhorayef**, N.M. Spyrou, Optimisation of FBP with using Butterworth, Metz and Weiner reconstruction filtering in ^{99m}Tc SPECT images, Proceedings of SiiC08 – The 2nd Saudi International Innovation Conference, Leeds UK, 1:36 (2008).
- **M. Alkhorayef** and N.M. Spyrou. Study of oxygen measurement in relation to three

photon positron annihilation yield in biological samples. Proceedings of SiC07 - The 1st Saudi Innovation Conference, Newcastle, UK, 1: 33-39 (2007).

- G. Prekas, G. Jones, K. Kacperski, **M. Alkhorayef** and N.M. Spyrou. Determination of 3γ photon yields in biological samples. Analysis of results obtained from experiment using the 'Gammsphere' at Argonne National Laboratory (Chicago, USA) Proceedings of MTAA-12- The 12th International Conference Modern Trends in Activation Analysis, Tokyo, Japan, 75: 114 (2007)
- **M. Alkhorayef** , Essential patient protection during diagnostic X-ray, (12477-39th year), Thursday 22-08-2002, Alriyadh Newspaper, (2002).

Prizes

- ✓ Outstanding Research Award at the Graduation Ceremony of the First Batch of the Custodian of the Two Holy Mosques Program for Scholarships in Britain and Ireland, the Royal Embassy of Saudi Arabia, Cultural Bureau, 27th - 28th July 2010, ExCel centre, London, UK
- ✓ Distinguished achievement prize at the 3rd Saudi International Conference (SiC09), 5th-6th June 2009, University of Surrey, Guildford, UK
- ✓ The first prize for the best student paper at the 9th International Conference on Nuclear Analytical Methods in the Life Sciences (NAMLS-9), 7th -12th September 2008, Lisbon, Portugal.
- ✓ The Radiological Sciences Academic Awards, these awards were given by the Department of Radiological Sciences, King Saud University, at the end of each academic semester to the top ten students having highest semester grade point average, 1998-2000, Riyadh, Saudi Arabia.