Name:	Dr. Andy Ma
Title:	Lecturer in Medical Physics
Start date with RCSI Bahrain:	3/15/2015
Department:	Foundation Year, School of Medicine
Specialty:	Medical Physics, Radiation Protection, Monte Carlo Calculations, Mathematical Modeling

Third Level Education / Academic Awards:

Date Awarded	Awarding Institution:	Qualification Title:
2006	University of Surrey	Doctor of Philosophy in Medical Physics
2001	University of Surrey	Master of Science in Medical Physics
1985	University of Waterloo, Canada	Bachelor of Mathematics

Previous Academic Positions:

Date (To - From):	Institution:	Position:
2007 To 2009	Institute of Cancer Research, UK	Post-doctoral Research
2009 To 2015	University of Dammam, Saudi Arabia	Assistance Professor

RCSI

Teaching Experience:

Teaching undergraduate medical physics at the RCSI Bahrain (2015-current).
Teaching undergraduate radiobiology, radiation protection, image analysis and computer applications in radiology courses at the University of Dammam (2009-2015).

Current Research and Scholarly Activities:

Currently involved in the following research projects

- Quantification and modeling of nanoparticle uptake by stem cells
- Enhancing anatomy learning with virtual models and 3D printed models
- Production of [89]Zr in medical cyclotron for immune-PET applications

Summary of Publication History: (Last 10 years only)

Publication Details:	Journal Impact Factor:
Ma AK, Hussein MA, Altaher KM, Farid KY, Amer MF, Aldhafery BF and Alghamdi AA (2015) Fluence-to-effective dose conversion coefficients from a Saudi population based phantom for monoenergetic photon beams from 10 keV to 20 MeV. Journal of Radiation Protection 35 75	1.581
Alfuraih, A, Alzimami K, Ma AK, Alghamdi A, Al Jammaz I (2014) Effective dose to immuno-PET patients due to metastable impurities in cyclotron produced zirconium-89. Radiation Physics and Chemistry 104 145-149	1.207
Alzimami KS, Alkhorayef MA, Alsafi KG, Ma A, Alfuraih AA, Alghamdi AA, Maghraby A and Spyrou NM (2014) Investigation of LaBr3:Ce probe for gamma-ray spectroscopy and dosimetry. Radiation Physics and Chemistry 95 137-140	1.207
Ma A, Altaher K, Hussein MA, Amer M, Farid KY and Alghamdi AA (2014) Photon fluence-to-effective dose conversion coefficients calculated from a Saudi population-based phantom. Radiation Physics and Chemistry 95 128-130	1.207
Alzimami KS and Ma A (2013) Effective dose to staff members in a PET/CT facility using zirconium-89. British Journal of Radiology 86 20130318	1.840
Alfuraih A, Alzimami K, Ma A, Alghamdi A (2013) Optimization of Zr-89 production using Monte Carlo simulations. Journal of Radioanalytical and Nuclear Chemistry 296 1025–1029	0.983
Ma A, Alghamdi A, Tofailli K and Spyrou NM (2012) X-ray CT in the detection of palm weevils. Journal of Radioanalytical and Nuclear Chemistry 291 353–357	0.983
Ma A and Alghamdi A (2011) A new interactive simulation system for radiology education – merging physical and virtual realities. Proceedings of The 14th IASTED International Conference on Computers and Advanced Technology in Education (CATE 2011) 734 Article 050	n/a
Ma A and Alghamdi A (2011) Development of a realistic computational breast phantom for dosimetric simulations. Progress in Nuclear Science and Technology 2 147–152	n/a
Ma A, Gunn S and Darambara DG (2009) Introducing DeBRa: A detailed breast model for radiological studies. Physics in Medicine and Biology 54 4533–4545	2.811
Ma A, Darambara DG, Stewart A, Gunn S and Bullard E (2008) Mean glandular dose estimation using MCNPX for a digital breast tomosynthesis system with tungsten/aluminum and tungsten/aluminum+silver x-ray anode-filter combinations. Medical Physics 35 5278–5289	2.889
Ma A, Awotwi-Pratt J, Alghamdi A, Alfuraih A and Spyrou NM (2008) Monte Carlo study of photoneutron production in the Varian Clinac 2100C linac. Journal of Radioanalytical and Nuclear Chemistry 276 119–123	0.983
Alghamdi A, Ma A, Marouli M, Albarakati Y, Kacperek A and Spyrou NM (2007) High resolution anthropomorphic voxel-based tomographic phantom for proton therapy of the eye. Physics in Medicine and Biology 52 N51–N59	2.811
Alghamdi A, Ma A and Spyrou NM (2007) Calculation of photonuclear yield using an anthropomorphic phantom by Monte Carlo simulation. Journal of Radioanalytical and Nuclear Chemistry 271 639–642	0.983

Recent Presentations:

Mahran A*, Mahran M, Keogh MB, Ma A (2016) Enhancing anatomical education with 3D e-learning. KHUH/RCSI International Research Day, Bahrain, November 16-17, 2016 (oral)
Ma A, Michael B. Keogh MB, Alghamdi A, O' Brien FJ, Henari F (2016) 3D modelling novel anticancer magic bombs: applications in nanoparticles, stem cells and regenerative medicine. KHUH/RCSI International Research Day, Bahrain, November 16-17, 2016 (poster)
Abdulwahab F, Henari F, Keogh M B, Ma A (2016) Uptake of glucose-conjugated nanoparticles by stem cells. KHUH/RCSI International Research Day, Bahrain, November 16-17, 2016 (poster)
Ma A, Michael B. Keogh MB, Alghamdi A, O' Brien FJ, Henari F (2016) Modelling nanoparticle loaded stem cells for cancer treatment. Symposium on Regenerative Medicine for Tissue Healing. RCSI Bahrain, May 5, 2016 (oral)
Alzimami K, Ma A, Al Jammaz I, Alfuraih A (2016) Comparison of 89Zr production for immuno-PET imaging using the Monte Carlo method in the cyclotron facility at KFRC, Saudi Arabia. Society of Nuclear Medicine and Molecular Imaging 2015 Annual Meeting, Baltimore, US, June 6-10, 2015 (poster)
Ma A*, Monte Carlo simulation technique in radiation protection. International Radiology Conference, King Fahad Hospital of the University, Al-Khobar, Saudi Arabia, January 6-9, 2014 (Invited speaker)
Alfuraih AA*, Alzimami K, Ma A, Alghamdi A, Al Jammaz I (2013) effective dose to immuno-PET patients due to metastable impurities in cyclotron produced zirconium-89. First International Conference on Dosimetry and its Applications, Prague, Czech Republic, June 23-28, 2013 (poster)
Ma A*, Alzimami K, Alfuraih A and Alghamdi A (2013) Absorbed fractions calculated in the revised MIRD head phantom using MCNPX. Annual Meeting of The Society of Nuclear Medicine and Molecular Imaging, Vancouver, Canada, June 8-12, 2013 (poster)
Alzimami KS, Alkhorayef MA*, Alsafi KG, Ma A, Alfuraih AA, Alghamdi AA, Maghraby A and Spyrou NM (2012) Investigation of LaBr3:Ce probe for gamma-ray spectroscopy and dosimetry measurements. 12th International Symposium on Radiation Physics, Rio de Janeiro, Brazil, October 7-12, 2012 (poster)
Alfuraih A*, Alzimami K, Ma A and Alghamdi A (2012) Concomitant dose to immuno-PET patients due to impurities in cyclotron produced zirconium-89. 12th International Symposium on Radiation Physics, Rio de Janeiro, Brazil, October 7-12, 2012 (poster)
Ma A*, Altaher K, Hussein MA, Amer M, Farid KY and Alghamdi AA (2012) Photon fluence-to-effective dose conversion coefficients calculated from a Saudi population-based phantom. 12th International Symposium on Radiation Physics, Rio de Janeiro, Brazil, October 7-12, 2012 (poster)
Alsafi K*, Miliebari S, Alghamdi A, and Ma A (2012) Calculation of dose distribution in PET/CT units using MCNPX Monte Carlo code. 13th International Congress of the International Radiation Protection Association, Glasgow, UK, May 12-18, 2012 (poster)
Ma A*, Alghamdi AA, Alsaif A and Alfuraih AA (2012) Development of a computational breast phantom. Breast Cancer: Current Practice and Future Directions, King Saud University, KSA, February 15, 2012 (invited speaker)
Alfuraih A*, Alzimami K, Ma A, Algahmdi A (2012) Optimization of Zr-89 production using Monte Carlo simulations. Ninth International Conference on Methods and Applications of Radioanalytical Chemistry (MARC IX), Kona, Hawaii, USA, March 25-30, 2012 (poster)
Alzimami KS, Alsafi KG, Alfuraih AA, Alkhorayef M, Alghamdi AA, Ma A and Spyrou NM (2012) Evaluation of LaCl3:Ce and LaBr3:Ce probes for gamma-ray spectroscopy and dosimetry measurements using Monte Carlo simulations. Ninth International Conference on Methods and Applications of Radioanalytical Chemistry (MARC IX), Kona, Hawaii, USA, March 25-30, 2012 (poster)

Consultancy and other Relevant Activities:

As co-inventer of the following patents:

- System and Method on the Interactive Radiological Simulation System. UK Patent No. GB2484355
- Radiological Simulation. US Patent No. 9,192,301