**MR in the planning, delivery and monitoring of radiotherapy**

31st March 2017, Surgeons’ Hall, Edinburgh

**FINAL PROGRAMME**

09:00 – 09:55 **Coffee and registration**

09:55 – 10:00 **Introduction**

*SESSION 1: MR in radiotherapy practice: challenges and requirements from the radiotherapy perspective*  
Chair: Nigel Davies

10:00 – 10:30 **Image is everything: the role of imaging in precision radiotherapy**  
Invited speaker: Dr Geoff Heyes (RT Physicist, University Hospitals Birmingham NHS Foundation Trust)

10:30 – 10:45 **Evaluation of Marker-Based CT-MR Registration in Radiotherapy Treatment Planning**  
Thomas Woolcot, Brighton and Sussex University Hospitals NHS Trust

10:45 – 11.00 **MR Image Interpretation Skills for Radiotherapy: Addressing the Skills Gap**  
Pete Bridge, University of Liverpool

11.00 – 11.30 **Coffee & Poster Session**

*SESSION 2: Added-value of MR in radiotherapy*  
Chair: Gillian Macnaught

11.30 – 12.00 **MRI in Radiotherapy Planning: Advantages and Challenges**  
Invited speaker: Dr Maria Schmidt (MR Physicist, Royal Marsden / ICR)

12.00 – 12.15 Study of diffusion weighted MRI as a predictive biomarker of response during radiotherapy for high and intermediate risk squamous cell cancer of the oropharynx: the MeRInO Study  
Dr Claire Paterson, Beatson West of Scotland Cancer Centre, Glasgow

12.15 – 12.30 **MR for Lung Treatment Planning**  
Michael Dubec, The Christie NHS Foundation Trust, Manchester

12.30 – 12.45 Can apparent diffusion coefficients from diffusion weighted MRI be used to automatically define the target volume for interstitial cervix brachytherapy planning? Preliminary Results  
Josh Kirby, Newcastle upon Tyne Hospitals NHS Foundation Trust

12:45 – 13:45 **Lunch**

*SESSION 3: Developments in MR-guided radiotherapy and MR-only planning*  
Chair: Andy Beavis

13.45 – 14.15 **MR Linac – A SWOT analysis**  
Invited speaker: Prof Marcel van Herk (Professor of Radiotherapy Physics, University of Manchester / The Christie)

14.15 – 14.30 **MR linac project at the Christie – current research and progress**  
Dr Alan McWilliam, The Christie NHS Foundation Trust, University of Manchester

14.30 – 14.45 **Progress made on the Australian MRI-Linac**  
Prof David Thwaites, University of Sydney, Australia

14.45 – 15.00 **A UK collaborative approach to MR-only radiotherapy treatment planning: working towards a UK wide clinical trial**  
Dr Richard Speight, Leeds Teaching Hospitals NHS Trust

15.00 – 15.45 **Coffee & Extended Poster Session**

*SESSION 4: Multiparametric MR imaging and spectroscopy for radiotherapy planning and treatment response assessment in brain tumours*  
Chair: Maria Schmidt

15.45 – 16.15 **Multiparametric Magnetic Resonance imaging and Spectroscopy for Radiotherapy planning, treatment and response assessment in brain tumours**  
Invited speaker: Dr Vijay Sawlani (Consultant Neuroradiologist, University Hospitals Birmingham NHS Foundation Trust)

16.15 – 16.30 **Chemical shift imaging to investigate intra-lesion heterogeneity in gliomas prior to chemoradiotherapy**  
Benjamin Rowland, Cardiff University Brain Imaging Centre, Cardiff

16.30 – 17.00 **Poster highlights/Work in progress/Questions/final discussion**

17:00 **Close**

Jointly organised by IPEM’s Magnetic Resonance & Radiotherapy Special Interest Groups
1. Implementation of Diffusion Weighted MRI in squamous cell cancer of the oropharynx  
   Dr Sarah Allwood-Spiers, NHS Greater Glasgow and Clyde

2. Clinical experience of the MRIdian MR guided radiotherapy  
   Prof Andy Beavis, Queens Centre for Oncology, Cottingham

3. Air/Bone Segmentation Using Magnetic Susceptibility-Based MRI  
   Emma Dixon, University College London

4. Evaluation of the Spatial Accuracy of MRI Treatment Planning Images used for Cranial Stereotactic Radiosurgery with the Leksell Gamma Knife Icon  
   Holly Elbert, Bristol Haematology and Oncology Centre

5. Multiparametric Magnetic Resonance (mpMR) scanning for early assessment of radiotherapy treatment response in brain tumours  
   Robert Flintham, University Hospitals Birmingham NHS Foundation Trust

6. Development of MRI-only brachytherapy planning  
   Mr Nick Holtom, Sheffield Teaching Hospitals NHS Foundation Trust

7. A Systematic Review of MRI-only Radiotherapy Treatment Planning Techniques  
   Emily Johnstone, University of Leeds

8. Optimising Magnetic Susceptibility Mapping in the Head-and-Neck to Detect Tumour Hypoxia  
   Anita Karsa, University College London

9. A Hip Prosthesis Phantom Study of Multi-modality (MR-Sim, CT-Sim, Cone Beam CT) Acquisitions and Metal Artefact Reduction Techniques for Radiotherapy  
   Dr Cormac McGrath, Belfast Health & Social Care Trust

10. Can MRI based pre-planning replace ultrasound for permanent prostate brachytherapy treatment planning? – A feasibility study  
    Dr Cormac McGrath, Belfast Health & Social Care Trust

11. Automated reference-free local error assessment in clinical multimodal deformable image registration  
    Dr Richard Speight, Leeds Teaching Hospitals NHS Trust

12. The feasibility of atlas-based automatic segmentation of MRI for prostate radiotherapy planning  
    Dr Richard Speight, Leeds Teaching Hospitals NHS Trust

13. A compelling case for MRI in RT? The Newcastle experience  
    Jonathan Wyatt, Newcastle upon Tyne Hospitals NHS Foundation Trust