Publications and projects

Recent Published papers

LEA Shelley, JE Scaife, M Romanchikova, K Harrison, JR Forman, AM Bates, DJ Noble, R Jena, MA Parker, MPF Sutcliffe, SJ Thomas, NG Burnet Delivered dose can be a better predictor of rectal toxicity than planned dose in prostate radiotherapy. Radiotherapy and Oncology 123,3, 466-471 2017. https://doi.org/10.1016/j.radonc.2017.04.008


standards and skill sets for nursing and allied healthcare professionals. European Journal of Oncology Nursing 201


Evaluating Competing and Emerging Technologies for Stereotactic Body Radiotherapy and Other Advanced Radiotherapy Techniques.  

Long Term Outcome of CT Based Image-Guided Brachytherapy for Cervix Cancer Using the Tandem-Ring Applicator.

Random variation in rectal position during radiotherapy for prostate cancer is two to three times greater than that predicted from prostate motion.

F M Brochu, N G Burnet, R Jena, R Plaistow, M A Parker and S J Thomas.
Geant4 simulation of the Elekta XVI kV CBCT unit for accurate description of potential late toxicity effects of image-guided radiotherapy.

Patient reported outcome measures (PROMs) following forward planned field-in field IMRT: Results from the Cambridge Breast IMRT trial.

Ashburner MJ and Tudor S.
The optimization of superficial planning target volumes (PTVs) with helical Tomotherapy.
Journal of Applied Clinical Medical Physics, Volume 15, Number 6, 2014.

NG Burnet, P Nasr, G Yip, JE Scaife, T House, SJ Thomas, F Harris, PJ Owen, P Hull.
Prophylactic radiotherapy against heterotopic ossification following internal fixation of acetabular fractures: a comparative estimate of risk.
NG Burnet, R Jena, KE Burton, GSJ Tudor, JE Scaife, F Harris, SJ Jefferies.  
“Clinical and Practical Considerations for the Use of Intensity-modulated Radiotherapy and Image Guidance in Neuro-oncology”.  

Reference dosimetry on TomoTherapy: an addendum to the 1990 UK MV dosimetry code of practice.  
Physics in Medicine and Biology 59 (6), 1339 (2014).

GSJ Tudor, SV Harden, SJ Thomas.  
Three-dimensional analysis of the respiratory interplay effect in helical tomotherapy: Baseline variations cause the greater part of dose inhomogeneities seen.  

Abstracts / Presentations/Posters

Amelia Drew, Patrick Elwood, Karl Harrison, Andy Parker, Hannah Pullen, Emma Silvester, Andrew Sultana, Lin Yeap, Michael Sutcliffe, Marina Romanchikova, Simon Thomas Using computing models from particle physics to investigate dose-toxicity correlations in cancer radiotherapy. 22nd International Conference on Computing in High Energy and Nuclear Physics San Francisco, 10th-14th October 2016


Using computing models from particle physics for big-data analysis in radiotherapy research.  

Marina Romanchikova, Karl Harrison, David Noble, Amy Bates, Nicolette Taku, Jessica
Scaife3, Andrew Hoole, Simon Thomas, Raj Jena and Neil Burnet.
A method for fast, reliable and customisable data processing in large radiotherapy trials.

Shelley, L.E.A., Romanchikova, M., Harrison, K., Sutcliffe, M.P.F., Thomas, S.J.
Automated calculation of accumulated dose to rectum to improve dose-toxicity correlation.

Stacey McGowan Holloway, Barry Evans, Christopher Rose and Andrew Hoole.
Quality Management of Scripts.

Andrew C F Hoole.
Enhancing the paperless RT Treatment process.

F Brochu, N Burnet, R Jena, S Thomas.
GEANT4 simulation of dose deposition in patients from TomoTherapy Hi-Art Megavoltage computed tomography (MVCT) imaging.

N Taku, M Romanchikova, SJ Thomas, AM Bates, R Jena, NG Burnet.
Organizational response of the hypothalamus and pituitary to external beam radiation.
Radiotherapy and Oncology, S100 ICTR-PHE 2016 February 15-19, Geneva.

M Romanchikova, K Harrison, SJ Thomas, A Bates, MP Sutcliffe, MA Parker, NG Burnet.
Design of electronic data processing system for radiotherapy study: lessons learned from VoxTox.
JE Scaife, K Harrison, A Drew, X Cai, J Lee, C-B Schonlieb, MPF Sutcliffe, MA Parker, S Freeman, M Romanchikova, SJ Thomas, R Jena, AM Bates, NG Burnet; Cancer Research UK VoxTox Research Group, Cambridge.

Accuracy of manual and automated rectal contours using helical tomotherapy image guidance scans during prostate radiotherapy.
J Clin Oncol 2015; 33: (suppl 7; abstr 94).

"Starting priority radiotherapy treatments more quickly."

S McGowan, M Holloway, N Burnet, S Thomas.
SU-ET-653: Quantifying Inter-Fraction Range Uncertainty for Input Into Robust Proton Planning.
Medical physics 42 (6), 3486-3487.

Accuracy of manual and automated rectal contours using helical tomotherapy image guidance scans during prostate radiotherapy.
ASCO Annual Meeting Proceedings 33 (7_suppl), 94.

M Romanchikova, SJ Thomas, A Bates, J Scaife, K Harrison, R Jena, NG Burnet.
EP-1528: Should we extend the daily image guidance scans for toxicity studies? A VoxTox experience.
Radiotherapy and Oncology 115, S834.

Radiotherapy & Oncology DOI: http://dx.doi.org/10.1016/S0167-8140(15)40858-8.


Stacey McGowan. TREATMENT PLANNING UNCERTAINTIES IN PROTON THERAPY. Invited speaker at the Christie Hospital, Manchester, September 2014.

McGowan SE, Albertini F, Thomas SJ, Burnet, NG & Lomax AJ. THE IMPORTANCE OF PLAN ROBUSTNESS IN PROTON BEAM THERAPY. Proton Therapy Physics Workshop (NPL PPRIG) at the National Physical Laboratory, 12th – 13th March 2014.

**PhD projects**

**Completed**


Thai-Binh Nguyen. “Method of IMRT optimization of shallow tumour cases where the PTV extends into the build-up region”. PhD awarded by the University of Cambridge 2009. Supervisors: Neil Burnet, Simon Thomas, Andrew Hoole.

Supervisors Simon Thomas, Neil Burnet.

Stacey McGowen.
“Incorporation of Range Uncertainty into Proton Treatment Planning.”
PhD awarded by University of Cambridge 2015.
Funded by MRC Studentship.
Supervisors Neil Burnet, Simon Thomas, Raj Jena.

Sam Tudor.
“Ensuring dosimetric coverage of radiotherapy treatment volumes”.
PhD awarded by University of Cambridge 2016.
Part time PhD, supported by East of England SHA.
Supervisor: Simon Thomas.

Current

Leila Shelley.
“Dose-Toxicity Analysis of Rectal and Salivary Toxicity in Patients receiving Radiotherapy within the VoxTox Research Programme”
Funded by Armstrong Trust.
Supervisors: Michael Sutcliffe, Simon Thomas, Neil Burnet.