Publications and projects

Recent Published papers


Wood TJ, Davis AT, Earley J, Edyvean S, Findlay U, Lindsay R, Nisbet A, Palmer AL, Plaistow R, Williams MG, IPEM topical report 2: the first UK survey of dose indices from radiotherapy treatment planning computed tomography scans for adult patients. Physics in...

DJ Eaton, JP Byrne, VP Cosgrove, SJ Thomas. Unintended doses in radiotherapy-over, under and outside?
The British Journal of Radiology, 2018, 20170863


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


Simon J Thomas, Marina Romanchikova, Karl Harrison, M Andrew Parker, Amy M Bates,
Jessica E Scaife, Michael PF Sutcliffe, Neil G Burnet.  
Recalculation of dose for each fraction of treatment on TomoTherapy.  

Accumulated dose to the rectum, measured using dose–volume histograms and dose-surface maps, is different from planned dose in all patients treated with radiotherapy for prostate cancer.  

Exploiting biological and physical determinants of radiotherapy toxicity to individualise treatment.  

Defining robustness protocols: a method to include and evaluate robustness in clinical plans.  

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.  

Abstracts / Presentations/Posters
E. Tait, O. Byrne, D. O'Doherty, B. Evans, T. Ajithkumar, G. Begum, A. Ho. EP-1880: A planning study evaluating the use of 4DCT vs 3DCT in pancreas planning, both conventional and SABR. ESTRO 38, 26-30 April Milan, Italy. 2019


PO-0880: Using accumulated delivered dose to predict rectal toxicity in prostate radiotherapy
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


Andrew C F Hoole. Enhancing the paperless RT Treatment process. 18th International Conference on the use of Computers in Radiation Therapy, London, June 2016.
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.

Accumulated Dose Volumes to the Rectum are Different from those Planned in Approximately 80% of Patients Treated with Helical Tomotherapy for Prostate Cancer.

PhD projects

Completed

Ian Cowley.
“New approaches to improving the accuracy and outcome of Intensity Modulated Radiotherapy.”
PhD awarded by the Open University 2006.
Supervisors: Simon Thomas, Philip Dendy, Sarah Brooke.

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.

Mark Cowen.
“Image Guided Radiotherapy Using Tomotherapy”.
PhD awarded by the University of Cambridge 2012.
Funded by MRC studentship.
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.

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