

RadNet Leeds publications as of July 2024

- Bird D, Henry AM, Sebag-Montefiore D, Buckley DL, Al-Qaisieh B, Speight R. A Systematic Review of the Clinical Implementation of Pelvic Magnetic Resonance Imaging-Only Planning for External Beam Radiation Therapy. *Int J Radiat Oncol Biol Phys*. 2019 Nov 1;105(3):479-492. doi: 10.1016/j.ijrobp.2019.06.2530. Epub 2019 Jul 2. PMID: 31271829.
- Tyyger M, Nix M, Al-Qaisieh B, Teo MT, Speight R. Identification and separation of rigid image registration error sources, demonstrated for MRI-only image guided radiotherapy. *Biomed Phys Eng Express*. 2020 Apr 27;6(3):035032. doi: 10.1088/2057-1976/ab81ad. PMID: 33438677.
- Waldram R, Taylor AE, Whittam S, Iyizoba-Ebozue Z, Murray L, Frood R, Cardale K, Dyker KE, Murray P, Ramasamy S, Sen M, Al-Qaisieh B, Prestwich RJD. Evaluation of Locoregional Recurrence Patterns Following Adjuvant (Chemo)Radiotherapy for Oral Cavity Carcinoma. *Clin Oncol (R Coll Radiol)*. 2020 Apr;32(4):228-237. doi: 10.1016/j.clon.2019.10.002. Epub 2019 Oct 23. PMID: 31668378.
- Alzahrani M, Broadbent DA, Chuter R, Al-Qaisieh B, Jackson S, Michael H, Johnstone RI, Shah S, Wetscherek A, Chick HJ, Wyatt JJ, McCallum HM, Speight R. Audit feasibility for geometric distortion in magnetic resonance imaging for radiotherapy. *Phys Imaging Radiat Oncol*. 2020 Jul;15:80-84. doi: 10.1016/j.phro.2020.07.004. PMID: 33163632; PMCID: PMC7607582.
- Slevin F, Beasley M, Cross W, Scarsbrook A, Murray L, Henry A. Patterns of Lymph Node Failure in Patients With Recurrent Prostate Cancer Postradical Prostatectomy and Implications for Salvage Therapies. *Adv Radiat Oncol*. 2020 Aug 31;5(6):1126-1140. doi: 10.1016/j.adro.2020.07.009. PMID: 33305073; PMCID: PMC7718540.
- Slevin F, Beasley M, Speight R, Lilley J, Murray L, Hawkins M, Radhakrishna G, Henry A. Evaluation of Clinician Contouring for Pancreatic Stereotactic Ablative Radiotherapy During a Contouring Workshop Organised by the Royal College of Radiologists. *Clin Oncol (R Coll Radiol)*. 2021 Mar;33(3):e196-e197. doi: 10.1016/j.clon.2020.10.014. Epub 2020 Oct 29. PMID: 33129654.
- Fernandez S, Beasley M, Lilley J, Murray L, Short SC. Establishing a Link Between Commonly Reported Toxicities and Tumour Location in Brain Tumour Patients Treated With Volumetric-modulated Arc Radiotherapy. *Clin Oncol (R Coll Radiol)*. 2021 Jan;33(1):e97-e98. doi: 10.1016/j.clon.2020.09.007. Epub 2020 Oct 2. PMID: 33020010.
- Saha A, Beasley M, Hatton N, Dickinson P, Franks K, Clarke K, Jain P, Teo M, Murray P, Lilley J. Clinical and dosimetric predictors of radiation pneumonitis in early-stage lung cancer treated with Stereotactic Ablative radiotherapy (SABR) - An analysis of UK's largest cohort of lung SABR patients. *Radiother Oncol*. 2021 Mar;156:153-159. doi: 10.1016/j.radonc.2020.12.015. Epub 2020 Dec 14. PMID: 33333139.
- Bird D, Nix MG, McCallum H, Teo M, Gilbert A, Casanova N, Cooper R, Buckley DL, Sebag-Montefiore D, Speight R, Al-Qaisieh B, Henry AM. Multicentre, deep learning, synthetic-CT generation for ano-rectal MR-only radiotherapy treatment planning. *Radiother Oncol*. 2021 Mar;156:23-28. doi: 10.1016/j.radonc.2020.11.027. Epub 2020 Nov 29. PMID: 33264638; PMCID: PMC8050018.
- Speight R, Tyyger M, Schmidt MA, Liney G, Johnstone R, Eccles CL, Dubec M, George B, Henry A, Herbert T, Nyholm T, Mahmood F, Korhonen J, Sims R, Tijssen RHN, Vanhoutte F, Busoni S, Lacornerie T, McCallum H. IPEM Topical



Report: an international IPEM survey of MRI use for external beam radiotherapy treatment planning. *Phys Med Biol.* 2021 Mar 23;66(7). doi: 10.1088/1361-6560/abe9f7. PMID: 33631729.

Saha, Animesh; Beasley, Matthew; Hatton, Nathaniel; Dickinson, Peter; Franks, Kevin; Clarke, Katy; Jain, Pooja; Teo, Mark; Murray, Patrick; Lilley, John. Can dosimetry affect local control and survival in patients with early-stage lung cancer treated with Stereotactic Ablative Radiotherapy (SABR)? An analysis of the UK's largest cohort of lung SABR patients. *Acta Oncologica.* 60 (4) 505-512. 2021.

Bird D, Pearce S, Teo M, et al. Assessing the patient experience of anal and rectal cancer MR simulation for radiotherapy treatment planning. *Journal of Radiotherapy in Practice.* 2022;21(4):487-492. doi:10.1017/S1460396921000261

Brown S, Beasley M, Aznar MC, Belderbos J, Chuter R, Cobben D, Faivre-Finn C, Franks K, Henry A, Murray L, Price G, van Herk M. The Impact of Intra-thoracic Anatomical Changes upon the Delivery of Lung Stereotactic Ablative Radiotherapy. *Clin Oncol (R Coll Radiol).* 2021 Oct;33(10):e413-e421. doi: 10.1016/j.clon.2021.04.011. Epub 2021 May 15. PMID: 34001380.

Choudhury A, Theophanous S, Lønne PI, Samuel R, Guren MG, Berbee M, Brown P, Lilley J, van Soest J, Dekker A, Gilbert A, Malinen E, Wee L, Appelt AL. Predicting outcomes in anal cancer patients using multi-centre data and distributed learning - A proof-of-concept study. *Radiother Oncol.* 2021 Jun;159:183-189. doi: 10.1016/j.radonc.2021.03.013. Epub 2021 Mar 20. PMID: 33753156.

Slevin F, Thompson CM, Speight R, Murray LJ, Lilley J, Henry AM. Ultra hypofractionated extended nodal irradiation using volumetric modulated arc therapy for oligorecurrent pelvic nodal prostate cancer. *Med Dosim.* 2021 Winter;46(4):411-418. doi: 10.1016/j.meddos.2021.05.002. Epub 2021 Jun 18. PMID: 34148727.

Bird D, Beasley M, Nix MG, Tyyger M, McCallum H, Teo M, Gilbert A, Casanova N, Cooper R, Buckley DL, Sebag-Montefiore D, Speight R, Henry AM, Al-Qaisieh B. Patient position verification in magnetic-resonance imaging only radiotherapy of anal and rectal cancers. *Phys Imaging Radiat Oncol.* 2021 Jul 18;19:72-77. doi: 10.1016/j.phro.2021.07.005. PMID: 34307922; PMCID: PMC8295842.

Slevin F, Beasley M, Zhong J, Hudson E, Speight R, Lilley J, Murray LJ, Henry AM. A feasibility study of hyoscine butylbromide (buscopan) to improve image quality of cone beam computed tomography during abdominal/pelvic Stereotactic Ablative Radiotherapy. *BJR Open.* 2021 Jul 29;3(1):20210045. doi: 10.1259/bjro.20210045. PMID: 34381954; PMCID: PMC8328082.

Skaarup M, Lundemann MJ, Darkner S, Jørgensen M, Marnier L, Mirkovic D, Grosshans D, Peeler C, Mohan R, Vogeliuss IR, Appelt A. A framework for voxel-based assessment of biological effect after proton radiotherapy in pediatric brain cancer patients using multi-modal imaging. *Med Phys.* 2021 Jul;48(7):4110-4121. doi: 10.1002/mp.14989. Epub 2021 Jun 10. PMID: 34021597.

Rønne HS, Kallehauge JF, Kronborg CJS, Nyvang L, Rekstad BL, Hanekamp BA, Appelt AL, Guren MG, Spindler KLS. Intensity modulated proton therapy planning study for organ at risk sparing in rectal cancer re-irradiation. *Acta Oncol.* 2021 Nov;60(11):1436-1439. doi: 10.1080/0284186X.2021.1953139. Epub 2021 Jul 15. PMID: 34264785.

Zhong J, Slevin F, Scarsbrook AF, Serra M, Choudhury A, Hoskin PJ, Brown S, Henry AM. Salvage Reirradiation Options for Locally Recurrent Prostate Cancer: A Systematic Review. *Front Oncol.* 2021 Sep 9;11:681448. doi: 10.3389/fonc.2021.681448. PMID: 34568012; PMCID: PMC8459721.



- A. Taylor, P. Shuttleworth, Supporting the development of the research and clinical trials therapeutic radiographers workforce: The RaCTTR survey. *Radiography*. Volume 27, Supplement 1. 2021, Pages S20-S27, <https://doi.org/10.1016/j.radi.2021.07.025>.
- Bird D, Speight R, Al-Qaisieh B, Henry AM. Magnetic Resonance Imaging Simulation for Anal and Rectal Cancer - Optimising the Patient Experience. *Clin Oncol (R Coll Radiol)*. 2021 Oct;33(10):e422-e424. doi: 10.1016/j.clon.2021.04.014. Epub 2021 May 12. PMID: 33992498.
- Slevin F, Aitken K, Alongi F, Arcangeli S, Chadwick E, Chang AR, Cheung P, Crane C, Guckenberger M, Jereczek-Fossa BA, Kamran SC, Kinj R, Loi M, Mahadevan A, Massacesi M, Mendez LC, Muirhead R, Pasquier D, Pontoriero A, Spratt DE, Tsang YM, Zelefsky MJ, Lilley J, Dickinson P, Hawkins MA, Henry AM, Murray LJ. An international Delphi consensus for pelvic stereotactic ablative radiotherapy re-irradiation. *Radiother Oncol*. 2021 Nov;164:104-114. doi: 10.1016/j.radonc.2021.09.010. Epub 2021 Sep 21. PMID: 34560186.
- Bird D, Nix MG, McCallum H, Teo M, Gilbert A, Casanova N, Cooper R, Buckley DL, Sebag-Montefiore D, Speight R, Al-Qaisieh B, Henry AM. The benefit of MR-only radiotherapy treatment planning for anal and rectal cancers: A planning study. *J Appl Clin Med Phys*. 2021 Nov;22(11):41-53. doi: 10.1002/acm2.13423. Epub 2021 Oct 22. PMID: 34687138; PMCID: PMC8598134.
- Spencer K, Defourny N, Tunstall D, Cosgrove V, Kirkby K, Henry A, Lievens Y, Hall P. Variable and fixed costs in NHS radiotherapy; consequences for increasing hypo fractionation. *Radiother Oncol*. 2022 Jan;166:180-188. doi: 10.1016/j.radonc.2021.11.035. Epub 2021 Dec 7. PMID: 34890735.
- Nix M, Gregory S, Aldred M, Aspin L, Lilley J, Al-Qaisieh B, Uzan J, Svensson S, Dickinson P, Appelt AL, Murray L. Dose summation and image registration strategies for radiobiologically and anatomically corrected dose accumulation in pelvic re-irradiation. *Acta Oncol*. 2022 Jan;61(1):64-72. doi: 10.1080/0284186X.2021.1982145. Epub 2021 Sep 29. PMID: 34586938.
- Pagett CJH, Lilley J, Lindsay R, Short S, Murray L. Optimising tumour coverage and organ at risk sparing for hypofractionated re-irradiation in glioblastoma. *Phys Imaging Radiat Oncol*. 2022 Feb 24;21:84-89. doi: 10.1016/j.phro.2022.02.012. PMID: 35243037; PMCID: PMC8881705.
- Nix M, Gregory S, Aldred M, Aspin L, Lilley J, Al-Qaisieh B, Uzan J, Svensson S, Dickinson P, Appelt AL, Murray L. Dose summation and image registration strategies for radiobiologically and anatomically corrected dose accumulation in pelvic re-irradiation. *Acta Oncol*. 2022 Jan;61(1):64-72. doi: 10.1080/0284186X.2021.1982145. Epub 2021 Sep 29. PMID: 34586938.
- Appelt AL, Elhaminia B, Gooya A, Gilbert A, Nix M. Deep Learning for Radiotherapy Outcome Prediction Using Dose Data - A Review. *Clin Oncol (R Coll Radiol)*. 2022 Feb;34(2):e87-e96. doi: 10.1016/j.clon.2021.12.002. Epub 2021 Dec 16. PMID: 34924256.
- Adusumilli P, Elsayed N, Theophanous S, Samuel R, Cooper R, Casanova N, Tolan DJ, Gilbert A, Scarsbrook AF. Combined PET-CT and MRI for response evaluation in patients with squamous cell anal carcinoma treated with curative-intent chemoradiotherapy. *Eur Radiol*. 2022 Aug;32(8):5086-5096. doi: 10.1007/s00330-022-08648-z. Epub 2022 Mar 11. PMID: 35274187; PMCID: PMC8913212.
- Diez P, Hanna GG, Aitken KL, van As N, Carver A, Colaco RJ, Conibear J, Dunne EM, Eaton DJ, Franks KN, Good JS, Harrow S, Hatfield P, Hawkins MA, Jain S, McDonald F, Patel R, Rackley T, Sanghera P, Tree A, Murray L. UK 2022 Consensus on Normal Tissue Dose-Volume Constraints for Oligometastatic, Primary Lung and Hepatocellular



Carcinoma Stereotactic Ablative Radiotherapy. *Clin Oncol (R Coll Radiol)*. 2022 May;34(5):288-300. doi: 10.1016/j.clon.2022.02.010. Epub 2022 Mar 7. PMID: 35272913.

Møller DS, Lutz CM, Khalil AA, Alber M, Holt MI, Kandi M, Schmidt HH, Tvillum M, Appelt A, Knap MM, Hoffmann L. Survival benefits for non-small cell lung cancer patients treated with adaptive radiotherapy. *Radiother Oncol*. 2022 Mar;168:234-240. doi: 10.1016/j.radonc.2022.01.039. Epub 2022 Feb 2. PMID: 35121030.

Currie, S., Fatania, K., Matthew, R., Wurdak, H., Chakrabarty, A., Murray, L., Short, S. A Comprehensive Clinical Review of Adult-Type Diffuse Glioma Incorporating the 2021 World Health Organization Classification. *Neurographics*, Volume 12, Number 2, 1 April 2022. <https://doi.org/10.3174/ng.2100034> pp. 43-70(28)

Arunachalam, E., Rogers, W., Simpson, G.R. et al. HOX and PBX gene dysregulation as a therapeutic target in glioblastoma multiforme. *BMC Cancer* 22, 400 (Apr 2022). <https://doi.org/10.1186/s12885-022-09466-8>

Beasley, M., Bestall, J., Murray, L., Henry, A., Cosgrove, V. P., & BURNETT, C. (2022, May 19). Use of natural oral contrast agents in upper-abdominal magnetic resonance imaging: a systematic scoping review protocol. *Open Science Framework*. <https://doi.org/10.17605/OSF.IO/N4ER8>

Kavi Fatania, Anna Clark, Russell Frod, Andrew Scarsbrook, Bashar Al-Qaisieh, Stuart Currie, Michael Nix. Harmonisation of scanner-dependent contrast variations in magnetic resonance imaging for radiation oncology, using style-blind auto-encoders. *Physics and Imaging in Radiation Oncology*, Volume 22, 2022, Pages 115-122

Fatania K, Clark A, Frod R, Scarsbrook A, Al-Qaisieh B, Currie S, Nix M. Harmonisation of scanner-dependent contrast variations in magnetic resonance imaging for radiation oncology, using style-blind auto-encoders. *Phys Imaging Radiat Oncol*. 2022 May 17;22:115-122. doi: 10.1016/j.phro.2022.05.005. PMID: 35619643; PMCID: PMC9127401.

Susan C. Short, Jessica Kendall, Anthony Chalmers, Catherine McBain, Alan Melcher, Adel Samson, Rachel Phillip, Sarah Brown; Abstract CT569: Combination of reovirus (pelareorep) and granulocyte-macrophage colony-stimulating factor (GM-CSF) alongside standard chemoradiotherapy and adjuvant chemotherapy (temozolomide) for patients with glioblastoma multiforme (GBM): Long term follow up results of the ReoGlio phase Ib trial. *Cancer Res* 15 June 2022; 82 (12_Supplement)

Theophanous, S., Samuel, R., Lilley, J. et al. Prognostic factors for patients with anal cancer treated with conformal radiotherapy—a systematic review. *BMC Cancer* 22, 607 (June 2022). <https://doi.org/10.1186/s12885-022-09729-4>

Fatania K, Frod R, Tyyger M, McDermott G, Fernandez S, Shaw GC, Boissinot M, Salvatore D, Ottobriani L, Teh I, Wright J, Bailey MA, Koch-Paszkowski J, Schneider JE, Buckley DL, Murray L, Scarsbrook A, Short SC, Currie S. Exploratory Analysis of Serial 18F-fluciclovine PET-CT and Multiparametric MRI during Chemoradiation for Glioblastoma. *Cancers (Basel)*. 2022 Jul 18;14(14):3485. doi: 10.3390/cancers14143485. PMID: 35884545; PMCID: PMC9315674.

Theophanous S, Lønne PI, Choudhury A, Berbee M, Dekker A, Dennis K, Dewdney A, Gambacorta MA, Gilbert A, Guren MG, Holloway L, Jadon R, Kochhar R, Mohamed AA, Muirhead R, Parés O, Raszewski L, Roy R, Scarsbrook A, Sebag-Montefiore D, Spezi E, Spindler KG, van Triest B, Vassiliou V, Malinen E, Wee L, Appelt AL; atomCAT consortium. Development and validation of prognostic models for anal cancer outcomes using distributed learning: protocol for the international multi-centre atomCAT2 study. *Diagn Progn Res*. 2022 Aug 4;6(1):14. doi: 10.1186/s41512-022-00128-8. PMID: 35922837; PMCID: PMC9351222.



- Underwood TSA, McNamara AL, Appelt A, Haviland JS, Sørensen BS, Troost EGC. A systematic review of clinical studies on variable proton Relative Biological Effectiveness (RBE). *Radiother Oncol.* 2022 Oct;175:79-92. doi: 10.1016/j.radonc.2022.08.014. Epub 2022 Aug 18. PMID: 35988776.
- Brüning-Richardson A, Shaw GC, Tams D, Brend T, Sanganeer H, Barry ST, Hamm G, Goodwin RJA, Swales JG, King H, Steele L, Morton R, Widyadari A, Ward TA, Esteves F, Boissinot M, Mavria G, Droop A, Lawler SE, Short SC. GSK-3 Inhibition Is Cytotoxic in Glioma Stem Cells through Centrosome Destabilization and Enhances the Effect of Radiotherapy in Orthotopic Models. *Cancers (Basel).* 2021 Nov 25;13(23):5939. doi: 10.3390/cancers13235939. Erratum in: *Cancers (Basel).* 2022 Aug 04;14(15): PMID: 34885051; PMCID: PMC8657225.
- Blee JA, Liu X, Harland AJ, Fatania K, Currie S, Kurian KM, Hauert S. Liquid biopsies for early diagnosis of brain tumours: insilico mathematical biomarker modelling. *J R Soc Interface.* 2022 Aug;19(193):20220180. doi: 10.1098/rsif.2022.0180. Epub 2022 Aug 3. PMID: 35919979; PMCID: PMC9346349.
- S Short et al, P11.64. A Long-term follow up and translational data from the ReoGlio phase Ib trial of GM-CSF and intravenous pelareorep (Reovirus) alongside standard of care in GBM, *Neuro-Oncology*, Volume 24, Issue Supplement_2, September 2022, Page ii73,
- Iyizoba-Ebozue Z, Billingsley S, Froud R, Vaidyanathan S, Scarsbrook A, Prestwich RJD. Accuracy of Response Assessment FDG PET-CT Post (Chemo)Radiotherapy in HPV Negative Oropharynx Squamous Cell Carcinoma. *Cancers (Basel).* 2022 Sep 26;14(19):4680. doi: 10.3390/cancers14194680. PMID: 36230604; PMCID: PMC9563399.
- Slevin, F; Beasley, M; Zhong, J; Hudson, E; Speight, R; Lilley, J; Murray, L; Henry, A. OC-0536 A feasibility trial of buscopan to improve cone beam CT image quality during abdominal/pelvic SABR. *Radiotherapy and Oncology.* 161. S423-S424. 2021
- Andratschke N, Willmann J, Appelt AL, Alyamani N, Balermipas P, Baumert BG, Hurkmans C, Høyer M, Langendijk JA, Kaidar-Person O, van der Linden Y, Meattini I, Niyazi M, Reynaert N, De Ruyscher D, Tanadini-Lang S, Hoskin P, Poortmans P, Nieder C. European Society for Radiotherapy and Oncology and European Organisation for Research and Treatment of Cancer consensus on re-irradiation: definition, reporting, and clinical decision making. *Lancet Oncol.* 2022 Oct;23(10):e469-e478. doi: 10.1016/S1470-2045(22)00447-8. Erratum in: *Lancet Oncol.* 2022 Nov;23(11):e492. PMID: 36174633
- Fatania K, Mohamud F, Clark A, Nix M, Short SC, O'Connor J, Scarsbrook AF, Currie S. Intensity standardization of MRI prior to radiomic feature extraction for artificial intelligence research in glioma-a systematic review. *Eur Radiol.* 2022 Oct;32(10):7014-7025. doi: 10.1007/s00330-022-08807-2. Epub 2022 Apr 29. PMID: 35486171; PMCID: PMC9474349.
- Zakeri A, Hokmabadi A, Bi N, Wijesinghe I, Nix MG, Petersen SE, Frangi AF, Taylor ZA, Gooya A. DragNet: Learning-based deformable registration for realistic cardiac MR sequence generation from a single frame. *Med Image Anal.* 2023 Jan;83:102678. doi: 10.1016/j.media.2022.102678. Epub 2022 Nov 2. PMID: 36403308
- Zhong J, Brown S, Serra M, Shuttleworth P, Bownes P, Thompson C, Reed R, Reeves K, Dubec M, McHugh D, Eccles C, Chuter R, Tsang YM, Taylor NJ, West C, Buckley D, Scarsbrook A, Choudhury A, Hoskin P, Henry A. Reirradiation Options for Previously Irradiated Prostate cancer (RO-PIP): Feasibility study investigating toxicity outcomes following reirradiation with stereotactic body radiotherapy (SBRT) versus high-dose-rate brachytherapy (HDR-BT). *BMJ Open.* 2022 Nov 8;12(11):e068580. doi: 10.1136/bmjopen-2022-068580. PMID: 36351720; PMCID: PMC9644357.
- Short SC, Noushmehr H. Unmet need for liquid biomarkers and the Brain-Liquid Biopsy Consortium. *Neurooncol Adv.* 2022 Nov 11;4(Suppl 2):ii1-ii3



Short SC. EV packing allows meningioma tracking in blood. *Neuro Oncol.* 2022 Dec 1;24(12):2091-2092

Billingsley S, Iyizoba Z, Frood R, Vaidyanathan S, Prestwich R, Scarsbrook A. Clinical Utility of Second-Look FDG PET-CT to Stratify Incomplete Metabolic Response Post (Chemo) Radiotherapy in Oropharyngeal Squamous Cell Carcinoma. *Cancers (Basel).* 2023 Jan 11;15(2):464. doi: 10.3390/cancers15020464. PMID: 36672413; PMCID: PMC9856733.

Shuaib H, Barker GJ, Sasieni P, De Vita E, Chelliah A, Andrei R, Ashkan K, Beaumont E, Brazil L, Rowland-Hill C, Lau YH, Luis A, Powell J, Swampillai A, Tenant S, Thust SC, Wastling S, Young T, Booth TC; ZGBM consortium. Overcoming challenges of translating deep-learning models for glioblastoma: the ZGBM consortium. *Br J Radiol.* 2023 Jan 1;96(1141):20220206. doi: 10.1259/bjr.20220206. Epub 2022 Nov 1. PMID: 35616700.

Pati S, Baid U, Edwards B, Sheller M, Wang SH, Reina GA, Foley P, Gruzdev A, Karkada D, Davatzikos C, Sako C, Ghodasara S, Bilello M, Mohan S, Vollmuth P, Brugnara G, Preetha CJ, Sahm F, Maier-Hein K, Zenk M, Bendszus M, Wick W, Calabrese E, Rudie J, Villanueva-Meyer J, Cha S, Ingahalikar M, Jadhav M, Pandey U, Saini J, Garrett J, Larson M, Jeraj R, Currie S, Frood R, Fatania K, Huang RY, Chang K, Balaña C, Capellades J, Puig J, Trenkler J, Pichler J, Necker G, Haunschmidt A, Meckel S, Shukla G, Liem S, Alexander GS, Lombardo J, Palmer JD, Flanders AE, Dicker AP, Sair HI, Jones CK, Venkataraman A, Jiang M, So TY, Chen C, Heng PA, Dou Q, Kozubek M, Lux F, Michálek J, Matula P, Keřkovský M, Kopřivová T, Dostál M, Vybíhal V, Vogelbaum MA, Mitchell JR, Farinhas J, Maldjian JA, Yogananda CGB, Pinho MC, Reddy D, Holcomb J, Wagner BC, Ellingson BM, Cloughesy TF, Raymond C, Oughourlian T, Hagiwara A, Wang C, To MS, Bhardwaj S, Chong C, Agzarian M, Falcão AX, Martins SB, Teixeira BCA, Sprenger F, Menotti D, Lucio DR, LaMontagne P, Marcus D, Wiestler B, Kofler F, Ezhov I, Metz M, Jain R, Lee M, Lui YW, McKinley R, Slotboom J, Radojewski P, Meier R, Wiest R, Murcia D, Fu E, Haas R, Thompson J, Ormond DR, Badve C, Sloan AE, Vadmal V, Waite K, Colen RR, Pei L, Ak M, Srinivasan A, Bapuraj JR, Rao A, Wang N, Yoshiaki O, Moritani T, Turk S, Lee J, Prabhudesai S, Morón F, Mandel J, Kamnitsas K, Glocker B, Dixon LVM, Williams M, Zampakis P, Panagiotopoulos V, Tsiganos P, Alexiou S, Haliassos I, Zacharaki EI, Moustakas K, Kalogeropoulou C, Kardamakis DM, Choi YS, Lee SK, Chang JH, Ahn SS, Luo B, Poisson L, Wen N, Tiwari P, Verma R, Bareja R, Yadav I, Chen J, Kumar N, Smits M, van der Voort SR, Alafandi A, Incekara F, Wijnenga MMJ, Kapsas G, Gahrman R, Schouten JW, Dubbink HJ, Vincent AJPE, van den Bent MJ, French PJ, Klein S, Yuan Y, Sharma S, Tseng TC, Adabi S, Niclou SP, Keunen O, Hau AC, Vallières M, Fortin D, Lepage M, Landman B, Ramadass K, Xu K, Chotai S, Chambless LB, Mistry A, Thompson RC, Gusev Y, Bhuvaneshwar K, Sayah A, Bencheqroun C, Belouali A, Madhavan S, Booth TC, Chelliah A, Modat M, Shuaib H, Dragos C, Abayazeed A, Kolodziej K, Hill M, Abbassy A, Gamal S, Mekhaimar M, Qayati M, Reyes M, Park JE, Yun J, Kim HS, Mahajan A, Muzi M, Benson S, Beets-Tan RGH, Teuwen J, Herrera-Trujillo A, Trujillo M, Escobar W, Abello A, Bernal J, Gómez J, Choi J, Baek S, Kim Y, Ismael H, Allen B, Buatti JM, Kotrotsou A, Li H, Weiss T, Weller M, Bink A, Pouymayou B, Shaykh HF, Saltz J, Prasanna P, Shrestha S, Mani KM, Payne D, Kurc T, Pelaez E, Franco-Maldonado H, Loayza F, Quevedo S, Guevara P, Torche E, Mendoza C, Vera F, Ríos E, López E, Velastin SA, Ogbole G, Soneye M, Oyekunle D, Odafe-Oyibotha O, Osobu B, Shu'aibu M, Dorcas A, Dako F, Simpson AL, Hamghalam M, Peoples JJ, Hu R, Tran A, Cutler D, Moraes FY, Boss MA, Gimpel J, Veettil DK, Schmidt K, Bialecki B, Marella S, Price C, Cimino L, Apgar C, Shah P, Menze B, Barnholtz-Sloan JS, Martin J, Bakas S. Federated learning enables big data for rare cancer boundary detection. *Nat Commun.* 2022 Dec 5;13(1):7346. doi: 10.1038/s41467-022-33407-5. Erratum in: *Nat Commun.* 2023 Jan 26;14(1):436. PMID: 36470898; PMCID: PMC9722782.

Arezoo Zakeri, Alireza Hokmabadi, Ning Bi, Isuru Wijesinghe, Michael G. Nix, Steffen E. Petersen, Alejandro F. Frangi, Zeike A. Taylor, Ali Gooya, DragNet: Learning-based deformable registration for realistic cardiac MR sequence generation from a single frame. *Medical Image Analysis, Volume 83, Jan 2023, 102678, ISSN 1361-8415, <https://doi.org/10.1016/j.media.2022.102678>, <https://www.sciencedirect.com/science/article/pii/S1361841522003061>*



Vasquez Osorio E, Mayo C, Jackson A, Appelt A. Challenges of re-irradiation: A call to arms for physicists - and radiotherapy vendors. *Radiother Oncol.* 2023 May;182:109585. doi: 10.1016/j.radonc.2023.109585. Epub 2023 Feb 25. PMID: 36842664.

Schramm MWJ, Currie S, Lee MT, Livermore LJ, Solanki SP, Mathew RK, Wurdak H, Loriger M, Twelves C, Short SC, Chakrabarty A, Chumas P. Do animal models of brain tumors replicate human peritumoral edema? a systematic literature search. *J Neurooncol.* 2023 Feb;161(3):451-467. doi: 10.1007/s11060-023-04246-1. Epub 2023 Feb 9. PMID: 36757526; PMCID: PMC9992038.

Murray LJ, Appelt AL, Ajithkumar T, Bedford JL, Burnet NG, Lalondrelle S, Manolopoulos S, O'Cathail SM, Robinson M, Short SC, Slevin F, Thomson DJ. Re-irradiation: From Cell Lines to Patients, Filling the (Science) Gap in the Market. *Clin Oncol (R Coll Radiol).* 2023 May;35(5):318-322. doi: 10.1016/j.clon.2023.01.023. Epub 2023 Feb 7. PMID: 36842937.

Bagger M, Espensen C, Rasmussen K, Dogrusöz M, Jager MJ, Appelt A, Kiilgaard JF. Genetic Status Affects Disease-Specific Mortality But Not the Incidence of Local Recurrence in Patients with Uveal Melanoma. *Ophthalmology.* 2023 Mar 17:S0161-6420(23)00164-1. doi: 10.1016/j.ophtha.2023.03.010. Epub ahead of print. PMID: 36934828.

Dubec MJ, Buckley DL, Berks M, Clough A, Gaffney J, Datta A, McHugh DJ, Porta N, Little RA, Cheung S, Hague C, Eccles CL, Hoskin PJ, Bristow RG, Matthews JC, van Herk M, Choudhury A, Parker GJM, McPartlin A, O'Connor JPB. First-in-human technique translation of oxygen-enhanced MRI to an MR Linac system in patients with head and neck cancer. *Radiother Oncol.* 2023 Jun;183:109592. doi: 10.1016/j.radonc.2023.109592. Epub 2023 Mar 3. PMID: 36870608.

B. Elhaminia et al., "Toxicity Prediction in Pelvic Radiotherapy Using Multiple Instance Learning and Cascaded Attention Layers," in *IEEE Journal of Biomedical and Health Informatics*, vol. 27, no. 4, pp. 1958-1966, April 2023, doi: 10.1109/JBHI.2023.3238825.

Murray L, Thompson C, Pagett C, Lilley J, Al-Qaisieh B, Svensson S, Eriksson K, Nix M, Aldred M, Aspin L, Gregory S, Appelt A. Treatment plan optimisation for reirradiation. *Radiother Oncol.* 2023 May;182:109545. doi: 10.1016/j.radonc.2023.109545. Epub 2023 Feb 20. PMID: 36813170.

Gerald L. Andriole, Andrew F. Scarsbrook, Bitai Savir-Baruch. Impact of 18F-fluciclovine PET/CT on plans for androgen deprivation therapy in patients with biochemical recurrence of prostate cancer: data analysis from two prospective clinical trials. *Urologic Oncology: Seminars and Original Investigations.* Volume 41, Issue 6, June 2023, Pages 293.e1-293.e7, ISSN 1078-1439, <https://doi.org/10.1016/j.urolonc.2023.04.004>.

Zhong J, Frod R, McWilliam A, Davey A, Shortall J, Swinton M, Hulson O, West CM, Buckley D, Brown S, Choudhury A, Hoskin P, Henry A, Scarsbrook A. Prediction of prostate tumour hypoxia using pre-treatment MRI-derived radiomics: preliminary findings. *Radiol Med.* 2023 Jun;128(6):765-774. doi: 10.1007/s11547-023-01644-3. Epub 2023 May 17. PMID: 37198374; PMCID: PMC10264289.

Thompson C, Pagett C, Lilley J, Svensson S, Eriksson K, Bokrantz R, Ödén J, Nix M, Murray L, Appelt A. Brain Re-Irradiation Robustly Accounting for Previously Delivered Dose. *Cancers (Basel).* 2023 Jul 28;15(15):3831. doi: 10.3390/cancers15153831. PMID: 37568647; PMCID: PMC10417278.

Currie S, Fatania K, Frod R, Whitehead R, Start J, Lee MT, McDonald B, Rankeillor K, Roberts P, Chakrabarty A, Mathew RK, Murray L, Short S, Scarsbrook A. Imaging Spectrum of the Developing Glioblastoma: A Cross-Sectional Observation Study. *Curr Oncol.* 2023 Jul 13;30(7):6682-6698. doi: 10.3390/curroncol30070490. PMID: 37504350; PMCID: PMC10378288.



- Aldawsari AM, Al-Qaisieh B, Broadbent DA, Bird D, Murray L, Speight R. The role and potential of using quantitative MRI biomarkers for imaging guidance in brain cancer radiotherapy treatment planning: A systematic review. *Phys Imaging Radiat Oncol*. 2023 Jul 25;27:100476. doi: 10.1016/j.phro.2023.100476. PMID: 37565088; PMCID: PMC10410581.
- Alzahrani N, Henry A, Clark A, Murray L, Nix M, Al-Qaisieh B. Geometric evaluations of CT and MRI based deep learning segmentation for brain OARs in radiotherapy. *Phys Med Biol*. 2023 Aug 29;68(17). doi: 10.1088/1361-6560/acf023. PMID: 37579753.
- McWilliam A, Palma G, Abravan A, Acosta O, Appelt A, Aznar M, Monti S, Onjukka E, Panettieri V, Placidi L, Rancati T, Vasquez Osorio E, Witte M, Cella L. Voxel-based analysis: Roadmap for clinical translation. *Radiother Oncol*. 2023 Nov;188:109868. doi: 10.1016/j.radonc.2023.109868. Epub 2023 Sep 6. PMID: 37683811.
- Singh K, Hotchkiss KM, Parney IF, De Groot J, Sahebjam S, Sanai N, Platten M, Galanis E, Lim M, Wen PY, Minniti G, Colman H, Cloughesy TF, Mehta MP, Geurts M, Arrillaga-Romany I, Desjardins A, Tanner K, Short S, Arons D, Duke E, Wick W, Bagley SJ, Ashley DM, Kumthekar P, Verhaak R, Chalmers AJ, Patel AP, Watts C, Fecci PE, Batchelor TT, Weller M, Vogelbaum MA, Preusser M, Berger MS, Khasraw M. Correcting the drug development paradigm for glioblastoma requires serial tissue sampling. *Nat Med*. 2023 Oct;29(10):2402-2405. doi: 10.1038/s41591-023-02464-8. PMID: 37488293.
- Hudson EM, Slevin F, Biscombe K, Brown SR, Haviland JS, Murray L, Kirby AM, Thomson DJ, Sebag-Montefiore D, Hall E. Hitting the Target: Developing High-quality Evidence for Proton Beam Therapy Through Randomised Controlled Trials. *Clin Oncol (R Coll Radiol)*. 2023 Nov 8:S0936-6555(23)00439-9. doi: 10.1016/j.clon.2023.11.027. Epub ahead of print. PMID: 38042671.
- Tvilum M, Lutz CM, Knap MM, Hoffmann L, Khalil AA, Holt MI, Kandi M, Schmidt HH, Appelt AL, Alber M, Møller DS. Different benefits of adaptive radiotherapy for different histologies of NSCLC. *Acta Oncol*. 2023 Nov;62(11):1426-1432. doi: 10.1080/0284186X.2023.2260944. Epub 2023 Nov 7. PMID: 37796133.
- Frood R, Mercer J, Brown P, Appelt A, Mistry H, Kochhar R, Scarsbrook A. Training and external validation of pre-treatment FDG PET-CT-based models for outcome prediction in anal squamous cell carcinoma. *Eur Radiol*. 2023 Nov 4. doi: 10.1007/s00330-023-10340-9. Epub ahead of print. PMID: 37924344.
- Ödén, J, Eriksson, K, Svensson, S, et al. Technical note: Optimization functions for re-irradiation treatment planning. *Med Phys*. 2023; 1-9. <https://doi.org/10.1002/mp.16815>
- Zhong J, Kobus M, Maitre P, Datta A, Eccles C, Dubec M, McHugh D, Buckley D, Scarsbrook A, Hoskin P, Henry A, Choudhury A. MRI-guided Pelvic Radiation Therapy: A Primer for Radiologists. *RadioGraphics* 2023; 43(11): e230052
- Willmann J, Appelt AL, Balermipas P, Baumert BG, de Ruyscher D, Hoyer M, Hurkmans C, Kaidar-Person O, Meattini I, Niyazi M, Poortmans P, Reynaert N, Tandini-Lang S, van der Linden Y, Nieder C, Andratschke N. Re-irradiation in clinical practice: Results of an international patterns of care survey within the framework of the ESTRO-EORTC E2-RADlatE platform. *Radiother Oncol*. 2023 Dec;189:109947. doi: 10.1016/j.radonc.2023.109947. Epub 2023 Oct 6. PMID: 37806559.
- Niyoteka S, Seban RD, Rouhi R, Scarsbrook A, Genestie C, Classe M, Carré A, Sun R, La Greca Saint-Estevan A, Chargari C, McKenna J, McDermott G, Malinen E, Tanadini-Lang S, Guckenberger M, Guren MG, Lemanski C, Deutsch E, Robert C. A common [18F]-FDG PET radiomic signature to predict survival in patients with HPV-induced cancers. *Eur J Nucl Med Mol Imaging* 2023 doi: 10.1007/s00259-023-06320-2 [Epub ahead of print]



"David Bird, Richard Speight, Sebastian Andersson, Jenny Wingqvist, Bashar Al-Qaisieh. Deep learning MRI-only synthetic-CT generation for pelvis, brain and head and neck cancers. *Radiotherapy and Oncology*.

2023, ISSN 0167-8140, <https://doi.org/10.1016/j.radonc.2023.110052>."

Castle J, Shaw G, Weller D, Fielder E, Egnuni T, Singh M, Skinner R, von Zglinicki T, Clifford SC, Short S, Miwa S, Hicks D. QOL-04. IN VIVO MODELLING RECAPITULATES RADIOTHERAPY DELIVERY AND LATE-EFFECT PROFILE FOR CHILDHOOD MEDULLOBLASTOMA. *Neuro Oncol*. 2024 Jun 18;26(Suppl 4):0. doi: 10.1093/neuonc/noae064.592. PMID: PMC11183520.

Alysha Chelliah, David A Wood, Liane S Canas, Haris Shuaib, Stuart Currie, Kavi Fatania, Russell Frood, Chris Rowland-Hill, Stefanie Thust, Stephen J Wastling, Sean Tenant, Karen Foweraker, Matthew Williams, Qiuan Wang, Andrei Roman, Carmen Dragos, Mark MacDonald, Yue Hui Lau, Christian A Linares, Ahmed Bassiouny, Aysha Luis, Thomas Young, Juliet Brock, Edward Chandy, Erica Beaumont, Tai-Chung Lam, Liam Welsh, Joanne Lewis, Ryan Mathew, Eric Kerfoot, Richard Brown, Daniel Beasley, Jennifer Glendenning, Lucy Brazil, Angela Swampillai, Keyoumars Ashkan, Sébastien Ourselin, Marc Modat, Thomas C Booth, Glioblastoma and Radiotherapy: a multi-center AI study for Survival Predictions from MRI (GRASP study), *Neuro-Oncology*, 2024;, noae017, <https://doi.org/10.1093/neuonc/noae017>

M Tvilum, MM Knap, L Hoffmann, AA Khalil, AL Appelt, A Haraldsen, M Alber, C Grau, HH Schmidt, M Kandi, MI Holt, CM Lutz, DS Møller Early radiologic and metabolic tumour response assessment during combined chemoradiotherapy for locally advanced NSCLC. *Clinical & Translational Radiation Oncology*

Derby S, Jackson MR, Williams K, Stobo J, Kelly C, Sweeting L, Shad S, Herbert C, Short SC, Williamson A, James A, Nowicki S, Bulbeck H, Chalmers AJ. Concurrent Olaparib and Radiation Therapy in Older Patients With Newly Diagnosed Glioblastoma: The Phase 1 Dose-Escalation PARADIGM Trial. *Int J Radiat Oncol Biol Phys*. 2024 Jan 9:S0360-3016(24)00015-4. doi: 10.1016/j.ijrobp.2024.01.011. Epub ahead of print. PMID: 38211641.

Dhesi SS, Frood R, Swift S, Cooper R, Muzumdar S, Jamal M, Scarsbrook A. Prediction of Patient Outcomes in Locally Advanced Cervical Carcinoma Following Chemoradiotherapy—Comparative Effectiveness of Magnetic Resonance Imaging and 2-Deoxy-2-[18F]fluoro-D-glucose Imaging. *Cancers*. 2024; 16(3):476. <https://doi.org/10.3390/cancers16030476>

Hardcastle N, Vasquez Osorio E, Jackson A, Mayo C, Aarberg AE, Ayadi M, Belosi F, Ceylan C, Davey A, Dupuis P, Handley JC, Hemminger T, Hoffmann L, Kelly C, Michailidou C, Muscat S, Murrell DH, Pérez-Alija J, Palmer C, Placidi L, Popovic M, Rønne HS, Selby A, Skopidou T, Solomou N, Stroom J, Thompson C, West NS, Zaila A, Appelt AL. Multi-centre evaluation of variation in cumulative dose assessment in reirradiation scenarios. *Radiother Oncol*. 2024 May;194:110184. doi: 10.1016/j.radonc.2024.110184. Epub 2024 Mar 5. PMID: 38453055.

Lafarge MW, Domingo E, Sirinukunwattana K, Wood R, Samuel L, Murray G, Richman SD, Blake A, Sebag-Montefiore D, Gollins S, Klieser E, Neureiter D, Huemer F, Greil R, Dunne P, Quirke P, Weiss L, Rittscher J, Maughan T, Koelzer VH. Image-based consensus molecular subtyping in rectal cancer biopsies and response to neoadjuvant chemoradiotherapy. *NPJ Precis Oncol*. 2024 Apr 9;8(1):89. doi: 10.1038/s41698-024-00580-3. PMID: 38594327; PMID: PMC11003957.

Alzahrani NM, Henry AM, Clark AK, Al-Qaisieh BM, Murray LJ, Nix MG. Dosimetric impact of contour editing on CT and MRI deep-learning autosegmentation for brain OARs. *J Appl Clin Med Phys*. 2024;e14345. <https://doi.org/10.1002/acm2.14345>



Arezoo Zakeri, Alireza Hokmabadi, Michael G. Nix, Ali Gooya, Isuru Wijesinghe, Zeike A. Taylor. 4D-Precise: Learning-based 3D motion estimation and high temporal resolution 4DCT reconstruction from treatment 2D+t X-ray projections, *Computer Methods and Programs in Biomedicine*. Volume 250, 2024, 108158, ISSN 0169-2607, <https://doi.org/10.1016/j.cmpb.2024.108158>.

(<https://www.sciencedirect.com/science/article/pii/S0169260724001548>)

[In press] Stratification to neoadjuvant radiotherapy in rectal cancer by regimen and transcriptional signatures
Cancer Research Communications

Lamyaa Aljaafari, David Bird, David L. Buckley, Bashar Al-Qaisieh, Richard Speight. A systematic review of 4D magnetic resonance imaging techniques for abdominal radiotherapy treatment planning. *Physics and Imaging in Radiation Oncology*. VOLUME 31, 100604, JULY 2024. <https://doi.org/10.1016/j.phro.2024.100604>

Number of publications: 91

Last updated in July 2024

For queries or more information, contact Nick Preston: N.Preston@leeds.ac.uk