

# Nicholas Hardcastle

## List of Publications by Year in descending order

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109  
papers

2,087  
citations

201385

27  
h-index

301761

39  
g-index

112  
all docs

112  
docs citations

112  
times ranked

2291  
citing authors

#	ARTICLE	IF	CITATIONS
1	Dose calculation and reporting with a linear Boltzman transport equation solver in vertebral SABR. <i>Physical and Engineering Sciences in Medicine</i> , 2022, 45, 43-48.	1.3	2
2	Please Place Your Seat in the Full Upright Position: A Technical Framework for Landing Upright Radiation Therapy in the 21st Century. <i>Frontiers in Oncology</i> , 2022, 12, 821887.	1.3	4
3	Utility of Biology-Guided Radiotherapy to De Novo Metastases Diagnosed During Staging of High-Risk Biopsy-Proven Prostate Cancer. <i>Frontiers in Oncology</i> , 2022, 12, 854589.	1.3	5
4	Quantitative assessment of ventilation-perfusion relationships with gallium-68 positron emission tomography/computed tomography imaging in lung cancer patients. <i>Physics and Imaging in Radiation Oncology</i> , 2022, 22, 8-12.	1.2	4
5	MIRSI position paper: the use of image registration and fusion algorithms in radiotherapy. <i>Physical and Engineering Sciences in Medicine</i> , 2022, 45, 421-428.	1.3	4
6	Feasibility of biology-guided radiotherapy using PSMA-PET to boost to dominant intraprostatic tumour. <i>Clinical and Translational Radiation Oncology</i> , 2022, 35, 84-89.	0.9	3
7	Assessing organ at risk position variation and its impact on delivered dose in kidney SABR. <i>Radiation Oncology</i> , 2022, 17, .	1.2	0
8	Practical considerations of single-fraction stereotactic ablative radiotherapy to the lung. <i>Lung Cancer</i> , 2022, 170, 185-193.	0.9	4
9	MLC tracking for lung SABR is feasible, efficient and delivers high-precision target dose and lower normal tissue dose. <i>Radiotherapy and Oncology</i> , 2021, 155, 131-137.	0.3	18
10	Safety, Efficacy, and Patterns of Failure After Single-Fraction Stereotactic Body Radiation Therapy (SBRT) for Oligometastases. <i>International Journal of Radiation Oncology Biology Physics</i> , 2021, 109, 756-763.	0.4	17
11	A systematic review and meta-analysis of the prognostic value of radiomics based models in non-small cell lung cancer treated with curative radiotherapy. <i>Radiotherapy and Oncology</i> , 2021, 155, 188-203.	0.3	37
12	On the reduction of aperture complexity in kidney SABR. <i>Journal of Applied Clinical Medical Physics</i> , 2021, 22, 71-81.	0.8	5
13	Automated assessment of functional lung imaging with 68Ga-ventilation/perfusion PET/CT using iterative histogram analysis. <i>EJNMMI Physics</i> , 2021, 8, 23.	1.3	4
14	A Deep Learning Model to Automate Skeletal Muscle Area Measurement on Computed Tomography Images. <i>Frontiers in Oncology</i> , 2021, 11, 580806.	1.3	22
15	Quantification of the geometric uncertainty when using implanted markers as a surrogate for lung tumor motion. <i>Medical Physics</i> , 2021, 48, 2724-2732.	1.6	3
16	Development of a physical geometric phantom for deformable image registration credentialing of radiotherapy centers for a clinical trial. <i>Journal of Applied Clinical Medical Physics</i> , 2021, 22, 255-265.	0.8	4
17	Machine learning applications in radiation oncology. <i>Physics and Imaging in Radiation Oncology</i> , 2021, 19, 13-24.	1.2	36
18	Out-of-field dose in stereotactic radiotherapy for paediatric patients. <i>Physics and Imaging in Radiation Oncology</i> , 2021, 19, 1-5.	1.2	1

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19	Personalising treatment plan quality review with knowledge-based planning in the TROG 15.03 trial for stereotactic ablative body radiotherapy in primary kidney cancer. <i>Radiation Oncology</i> , 2021, 16, 142.	1.2	8
20	Single-Fraction vs Multifraction Stereotactic Ablative Body Radiotherapy for Pulmonary Oligometastases (SAFRON II). <i>JAMA Oncology</i> , 2021, 7, 1476.	3.4	50
21	CT slice alignment to whole-body reference geometry by convolutional neural network. <i>Physical and Engineering Sciences in Medicine</i> , 2021, , 1.	1.3	0
22	Radiomics feature stability of open-source software evaluated on apparent diffusion coefficient maps in head and neck cancer. <i>Scientific Reports</i> , 2021, 11, 17633.	1.6	25
23	Predicting muscle loss during lung cancer treatment (PREDICT): protocol for a mixed methods prospective study. <i>BMJ Open</i> , 2021, 11, e051665.	0.8	0
24	Reducing the impact on renal function of kidney SABR through management of respiratory motion. <i>Physica Medica</i> , 2021, 89, 72-79.	0.4	3
25	Cascaded deep learning-based auto-segmentation for head and neck cancer patients: Organs at risk on T2-weighted magnetic resonance imaging. <i>Medical Physics</i> , 2021, 48, 7757-7772.	1.6	17
26	Stereotactic Ablative Fractionated Radiotherapy versus Radiosurgery for Oligometastatic Neoplasia to the Lung: A Randomized Phase II Trial. <i>International Journal of Radiation Oncology Biology Physics</i> , 2020, 108, S3-S4.	0.4	4
27	The challenge of planning vertebral body SBRT: Optimizing target volume coverage. <i>Medical Dosimetry</i> , 2020, 45, 302-307.	0.4	7
28	An international survey on the clinical use of rigid and deformable image registration in radiotherapy. <i>Journal of Applied Clinical Medical Physics</i> , 2020, 21, 10-24.	0.8	20
29	Deforming to Best Practice: Key considerations for deformable image registration in radiotherapy. <i>Journal of Medical Radiation Sciences</i> , 2020, 67, 318-332.	0.8	15
30	Is multileaf collimator tracking or gating a better intrafraction motion adaptation strategy? An analysis of the TROG 15.01 stereotactic prostate ablative radiotherapy with KIM (SPARK) trial. <i>Radiotherapy and Oncology</i> , 2020, 151, 234-241.	0.3	10
31	A retrospective analysis of setup and intrafraction positional variation in stereotactic radiotherapy treatments. <i>Journal of Applied Clinical Medical Physics</i> , 2020, 21, 109-119.	0.8	17
32	A robust VMAT delivery solution for single-fraction lung SABR utilizing FFF beams minimizing dosimetric compromise. <i>Journal of Applied Clinical Medical Physics</i> , 2020, 21, 299-304.	0.8	9
33	Credentialing of vertebral stereotactic ablative body radiotherapy in a multi-centre trial. <i>Physica Medica</i> , 2020, 72, 16-21.	0.4	5
34	Upright Radiation Therapy – A Historical Reflection and Opportunities for Future Applications. <i>Frontiers in Oncology</i> , 2020, 10, 213.	1.3	18
35	Real-Time Image Guided Ablative Prostate Cancer Radiation Therapy: Results From the TROG 15.01 SPARK Trial. <i>International Journal of Radiation Oncology Biology Physics</i> , 2020, 107, 530-538.	0.4	33
36	Independent review of 4DCT scans used for SABR treatment planning. <i>Journal of Applied Clinical Medical Physics</i> , 2020, 21, 62-67.	0.8	11

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37	The effect of stereotactic body radiotherapy (SBRT) using flattening filter-free beams on cardiac implantable electronic devices (CIEDs) in clinical situations. <i>Journal of Applied Clinical Medical Physics</i> , 2020, 21, 121-131.	0.8	13
38	Stereotactic ablative body radiation therapy (SABR) in NSW. <i>Physical and Engineering Sciences in Medicine</i> , 2020, 43, 641-650.	1.3	5
39	Geometric uncertainty analysis of MLC tracking for lung SABR. <i>Physics in Medicine and Biology</i> , 2020, 65, 235040.	1.6	6
40	Single-arm prospective interventional study assessing feasibility of using gallium-68 ventilation and perfusion PET/CT to avoid functional lung in patients with stage III non-small cell lung cancer. <i>BMJ Open</i> , 2020, 10, e042465.	0.8	15
41	Dose to medium in head and neck radiotherapy: Clinical implications for target volume metrics. <i>Physics and Imaging in Radiation Oncology</i> , 2019, 11, 92-97.	1.2	8
42	The accuracy and precision of the KIM motion monitoring system used in the multi-institutional TROG 15.01 Stereotactic Prostate Ablative Radiotherapy with KIM (SPARK) trial. <i>Medical Physics</i> , 2019, 46, 4725-4737.	1.6	14
43	NaF PET/CT for response assessment of prostate cancer bone metastases treated with single fraction stereotactic ablative body radiotherapy. <i>Radiation Oncology</i> , 2019, 14, 164.	1.2	12
44	Clinical impact of removing respiratory motion during liver SABR. <i>Radiation Oncology</i> , 2019, 14, 93.	1.2	25
45	The Liver INSPECTR Trial: Towards improved understanding of liver function following radiotherapy. <i>Journal of Physics: Conference Series</i> , 2019, 1154, 012009.	0.3	0
46	Both four-dimensional computed tomography and four-dimensional cone beam computed tomography under-predict lung target motion during radiotherapy. <i>Radiotherapy and Oncology</i> , 2019, 135, 65-73.	0.3	46
47	SABR in clinical trials: what quality assurance (QA) is required and how can it be done?. <i>Journal of Physics: Conference Series</i> , 2019, 1154, 012014.	0.3	1
48	Systematic endobronchial ultrasound-guided transbronchial needle aspiration improves radiotherapy planning in non-small cell lung cancer. <i>ERJ Open Research</i> , 2019, 5, 00004-2019.	1.1	13
49	A future of automated image contouring with machine learning in radiation therapy. <i>Journal of Medical Radiation Sciences</i> , 2019, 66, 223-225.	0.8	5
50	The VAMPIRE challenge: A multi-institutional validation study of CT ventilation imaging. <i>Medical Physics</i> , 2019, 46, 1198-1217.	1.6	59
51	On the Instantaneous Dose Rate and Angular Dependence of Monolithic Silicon Array Detectors. <i>IEEE Transactions on Nuclear Science</i> , 2019, 66, 519-527.	1.2	6
52	Credentialing of radiotherapy centres in Australasia for TROG 09.02 (Chisel), a Phase III clinical trial on stereotactic ablative body radiotherapy of early stage lung cancer. <i>British Journal of Radiology</i> , 2018, 91, 20170737.	1.0	16
53	Experience with an abdominal compression band for radiotherapy of upper abdominal tumours. <i>Journal of Medical Radiation Sciences</i> , 2018, 65, 48-54.	0.8	14
54	A novel high-resolution 2D silicon array detector for small field dosimetry with FFF photon beams. <i>Physica Medica</i> , 2018, 45, 117-126.	0.4	24

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55	4-Dimensional Cone Beam Computed Tomographyâ€“Measured Target Motion Underrepresents Actual Motion. <i>International Journal of Radiation Oncology Biology Physics</i> , 2018, 102, 932-940.	0.4	8
56	TROG 15.03 phase II clinical trial of Focal Ablative STereotactic Radiosurgery for Cancers of the Kidney - FOSTRACK II. <i>BMC Cancer</i> , 2018, 18, 1030.	1.1	50
57	Comparison of radiobiological parameters for 90Y radionuclide therapy (RNT) and external beam radiotherapy (EBRT) in vitro. <i>EJNMMI Physics</i> , 2018, 5, 18.	1.3	23
58	An augmented correlation framework for the estimation of tumour translational and rotational motion during external beam radiotherapy treatments using intermittent monoscopic x-ray imaging and an external respiratory signal. <i>Physics in Medicine and Biology</i> , 2018, 63, 205003.	1.6	5
59	Deep Learning Renal Segmentation for Fully Automated Radiation Dose Estimation in Unsealed Source Therapy. <i>Frontiers in Oncology</i> , 2018, 8, 215.	1.3	85
60	Functional lung imaging in radiation therapy for lung cancer: A systematic review and meta-analysis. <i>Radiotherapy and Oncology</i> , 2018, 129, 196-208.	0.3	53
61	A Bayesian approach for three-dimensional markerless tumor tracking using kV imaging during lung radiotherapy. <i>Physics in Medicine and Biology</i> , 2017, 62, 3065-3080.	1.6	38
62	Experimental verification of dose enhancement effects in a lung phantom from inline magnetic fields. <i>Radiotherapy and Oncology</i> , 2017, 125, 433-438.	0.3	13
63	MLC tracking for lung SABR reduces planning target volumes and dose to organs at risk. <i>Radiotherapy and Oncology</i> , 2017, 124, 18-24.	0.3	31
64	Patient specific quality control for Stereotactic Ablative Body Radiotherapy (SABR): it takes more than one phantom. <i>Journal of Physics: Conference Series</i> , 2017, 777, 012017.	0.3	4
65	On the use of a convolutionâ€“superposition algorithm for plan checking in lung stereotactic body radiation therapy. <i>Journal of Applied Clinical Medical Physics</i> , 2016, 17, 99-110.	0.8	6
66	A Multidisciplinary Evaluation of a Web-based eLearning Training Programme for SAFRON II (TROG) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 <i>Oncology</i> , 2016, 28, e101-e108.	0.6	11
67	Australia and New Zealand Faculty of Radiation Oncology Lung Interest Cooperative: 2015 consensus guidelines for the use of advanced technologies in the radiation therapy treatment of locally advanced nonâ€“small cell lung cancer. <i>Journal of Medical Imaging and Radiation Oncology</i> , 2016, 60, 686-692.	0.9	1
68	The first patient treatment of electromagnetic-guided real time adaptive radiotherapy using MLC tracking for lung SABR. <i>Radiotherapy and Oncology</i> , 2016, 121, 19-25.	0.3	84
69	A randomised phase II trial of Stereotactic Ablative Fractionated radiotherapy versus Radiosurgery for Oligometastatic Neoplasia to the lung (TROG 13.01 SAFRON II). <i>BMC Cancer</i> , 2016, 16, 183.	1.1	34
70	Ga-68 MAA Perfusion 4D-PET/CT Scanning Allows for Functional Lung Avoidance Using Conformal Radiation Therapy Planning. <i>Technology in Cancer Research and Treatment</i> , 2016, 15, 114-121.	0.8	33
71	Dosimetric Consequences of 3D Versus 4D PET/CT for Target Delineation of Lung Stereotactic Radiotherapy. <i>Journal of Thoracic Oncology</i> , 2015, 10, 1112-1115.	0.5	9
72	Dose enhancement in radiotherapy of small lung tumors using inline magnetic fields: A Monte Carlo based planning study. <i>Medical Physics</i> , 2015, 43, 368-377.	1.6	30

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73	On Voxel-by-voxel Accumulated Dose for Prostate Radiation Therapy using Deformable Image Registration. <i>Technology in Cancer Research and Treatment</i> , 2015, 14, 37-47.	0.8	10
74	High-resolution pulmonary ventilation and perfusion PET/CT allows for functionally adapted intensity modulated radiotherapy in lung cancer. <i>Radiotherapy and Oncology</i> , 2015, 115, 157-162.	0.3	83
75	Predictors of Respiratory-induced Lung Tumour Motion Measured on Four-dimensional Computed Tomography. <i>Clinical Oncology</i> , 2015, 27, 197-204.	0.6	12
76	Calculating integral dose using data exported from a commercial record and verify system. <i>Australasian Physical and Engineering Sciences in Medicine</i> , 2015, 38, 283-288.	1.4	0
77	Accuracy and Utility of Deformable Image Registration in 68Ga 4D PET/CT Assessment of Pulmonary Perfusion Changes During and After Lung Radiation Therapy. <i>International Journal of Radiation Oncology Biology Physics</i> , 2015, 93, 196-204.	0.4	21
78	Ventilation/Perfusion Positron Emission Tomography-Based Assessment of Radiation Injury to Lung. <i>International Journal of Radiation Oncology Biology Physics</i> , 2015, 93, 408-417.	0.4	41
79	Image guidance and stabilization for stereotactic ablative body radiation therapy (SABR) treatment of primary kidney cancer. <i>Practical Radiation Oncology</i> , 2015, 5, e597-e605.	1.1	7
80	Short communication: timeline of radiation-induced kidney function loss after stereotactic ablative body radiotherapy of renal cell carcinoma as evaluated by serial 99mTc-DMSA SPECT/CT. <i>Radiation Oncology</i> , 2014, 9, 253.	1.2	26
81	Results of patient specific quality assurance for patients undergoing stereotactic ablative radiotherapy for lung lesions. <i>Australasian Physical and Engineering Sciences in Medicine</i> , 2014, 37, 45-52.	1.4	9
82	Feasibility of IMRT Planning to Reduce Dose to Functional Lung Using Respiratory Gated (4D) Gallium-68 Perfusion PET/CT. <i>International Journal of Radiation Oncology Biology Physics</i> , 2014, 90, S618-S619.	0.4	2
83	The effect on dose accumulation accuracy of inverse-consistency and transitivity error reduced deformation maps. <i>Australasian Physical and Engineering Sciences in Medicine</i> , 2014, 37, 321-326.	1.4	11
84	Comparison of Margins, Integral Dose and Interfraction Target Coverage with Image-guided Radiotherapy Compared with Non-image-guided Radiotherapy for Bladder Cancer. <i>Clinical Oncology</i> , 2014, 26, 497-505.	0.6	14
85	Multi-institutional Quantitative Evaluation and Clinical Validation of Smart Probabilistic Image Contouring Engine (SPICE) Autosegmentation of Target Structures and Normal Tissues on Computer Tomography Images in the Head and Neck, Thorax, Liver, and Male Pelvis Areas. <i>International Journal of Radiation Oncology Biology Physics</i> , 2013, 87, 809-816.	0.4	34
86	Accuracy of deformable image registration for contour propagation in adaptive lung radiotherapy. <i>Radiation Oncology</i> , 2013, 8, 243.	1.2	63
87	Normal tissue dose and second cancer risk due to megavoltage fan-beam CT, static tomotherapy and helical tomotherapy in breast radiotherapy. <i>Radiotherapy and Oncology</i> , 2013, 108, 266-268.	0.3	9
88	Review of four novel dosimeters developed for use in radiotherapy. <i>Journal of Physics: Conference Series</i> , 2013, 444, 012008.	0.3	3
89	Risk-Adaptive Volumetric Modulated Arc Therapy Using Biological Objective Functions for Subvolume Boosting in Radiotherapy. <i>Computational and Mathematical Methods in Medicine</i> , 2012, 2012, 1-7.	0.7	5
90	Evaluation of a New Tomotherapy Treatment Planning System Utilizing GPU Computing Capacity. <i>International Journal of Radiation Oncology Biology Physics</i> , 2012, 84, S781.	0.4	0

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91	Improvements in dose calculation accuracy for small off-axis targets in high dose per fraction tomotherapy. <i>Medical Physics</i> , 2012, 39, 4788-4794.	1.6	7
92	A multi-institution evaluation of deformable image registration algorithms for automatic organ delineation in adaptive head and neck radiotherapy. <i>Radiation Oncology</i> , 2012, 7, 90.	1.2	78
93	On a single isocenter volumetric modulated arc therapy SRS planning technique for multiple brain metastases. <i>Journal of Radiosurgery and SBRT</i> , 2012, 2, 1-9.	0.2	13
94	High dose per fraction dosimetry of small fields with Gafchromic EBT2 film. <i>Medical Physics</i> , 2011, 38, 4081-4085.	1.6	35
95	Independent quality assurance of a helical tomotherapy machine using the dose magnifying glass. <i>Medical Physics</i> , 2011, 38, 2256-2264.	1.6	8
96	On the dosimetric effect and reduction of inverse consistency and transitivity errors in deformable image registration for dose accumulation. <i>Medical Physics</i> , 2011, 39, 272-280.	1.6	50
97	Comparison of Prostate IMRT and VMAT Biologically Optimised Treatment Plans. <i>Medical Dosimetry</i> , 2011, 36, 292-298.	0.4	60
98	A study into the relationship between the measured penumbra and effective source size in the modeling of the Pinnacle RTPS. <i>Australasian Physical and Engineering Sciences in Medicine</i> , 2011, 34, 233-241.	1.4	6
99	EBT2 radiochromic film for quality assurance of complex IMRT treatments of the prostate: micro-collimated IMRT, RapidArc, and TomoTherapy. <i>Australasian Physical and Engineering Sciences in Medicine</i> , 2011, 34, 333-343.	1.4	44
100	Surface dosimetry for breast radiotherapy in the presence of immobilization cast material. <i>Physics in Medicine and Biology</i> , 2011, 56, 1001-1013.	1.6	37
101	Megavoltage cone beam CT near surface dose measurements: potential implications for breast radiotherapy. <i>Medical Physics</i> , 2011, 38, 6222-6227.	1.6	13
102	Quality assurance of an image guided intracranial stereotactic positioning system for radiosurgery treatment with helical tomotherapy. <i>Journal of Neuro-Oncology</i> , 2010, 98, 277-285.	1.4	14
103	Reirradiation of Glioblastoma through the Use of a Reduced Dose Rate on a Tomotherapy Unit. <i>Technology in Cancer Research and Treatment</i> , 2010, 9, 399-406.	0.8	13
104	Monte carlo study of MOSFET packaging, optimised for improved energy response: single MOSFET filtration. <i>Radiation Protection Dosimetry</i> , 2010, 141, 10-17.	0.4	7
105	<i>In vivo</i> real-time rectal wall dosimetry for prostate radiotherapy. <i>Physics in Medicine and Biology</i> , 2010, 55, 3859-3871.	1.6	51
106	Rectal dose reduction with IMRT for prostate radiotherapy. <i>Journal of Medical Imaging and Radiation Oncology</i> , 2010, 54, 235-248.	0.9	18
107	Endo-rectal balloon cavity dosimetry in a phantom: Performance under IMRT and helical tomotherapy beams. <i>Radiotherapy and Oncology</i> , 2009, 92, 48-56.	0.3	11
108	Dosimetric verification of helical tomotherapy for total scalp irradiation. <i>Medical Physics</i> , 2008, 35, 5061-5068.	1.6	36

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109	Multileaf collimator end leaf leakage: implications for wide-field IMRT. <i>Physics in Medicine and Biology</i> , 2007, 52, N493-N504.	1.6	9