

Karl T Butterworth

List of Publications by Citations

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71
papers

3,344
citations

30
h-index

57
g-index

79
ext. papers

3,968
ext. citations

3.9
avg, IF

5.07
L-index

#	Paper	IF	Citations
71	Cell-specific radiosensitization by gold nanoparticles at megavoltage radiation energies. <i>International Journal of Radiation Oncology Biology Physics</i> , 2011 , 79, 531-9	4	321
70	Physical basis and biological mechanisms of gold nanoparticle radiosensitization. <i>Nanoscale</i> , 2012 , 4, 4830-8	7.7	293
69	Biological consequences of nanoscale energy deposition near irradiated heavy atom nanoparticles. <i>Scientific Reports</i> , 2011 , 1, 18	4.9	286
68	Gold nanoparticles for cancer radiotherapy: a review. <i>Cancer Nanotechnology</i> , 2016 , 7, 8	7.9	238
67	Evaluation of cytotoxicity and radiation enhancement using 1.9 nm gold particles: potential application for cancer therapy. <i>Nanotechnology</i> , 2010 , 21, 295101	3.4	164
66	Nanodosimetric effects of gold nanoparticles in megavoltage radiation therapy. <i>Radiotherapy and Oncology</i> , 2011 , 100, 412-6	5.3	144
65	The use of theranostic gadolinium-based nanoprobes to improve radiotherapy efficacy. <i>British Journal of Radiology</i> , 2014 , 87, 20140134	3.4	130
64	Cell type-dependent uptake, localization, and cytotoxicity of 1.9 nm gold nanoparticles. <i>International Journal of Nanomedicine</i> , 2012 , 7, 2673-85	7.3	130
63	Biological mechanisms of gold nanoparticle radiosensitization. <i>Cancer Nanotechnology</i> , 2017 , 8, 2	7.9	117
62	Imaging and radiation effects of gold nanoparticles in tumour cells. <i>Scientific Reports</i> , 2016 , 6, 19442	4.9	98
61	Out-of-field cell survival following exposure to intensity-modulated radiation fields. <i>International Journal of Radiation Oncology Biology Physics</i> , 2011 , 79, 1516-22	4	74
60	Variation of strand break yield for plasmid DNA irradiated with high-Z metal nanoparticles. <i>Radiation Research</i> , 2008 , 170, 381-7	3.1	74
59	The role of mitochondrial function in gold nanoparticle mediated radiosensitisation. <i>Cancer Nanotechnology</i> , 2014 , 5, 5	7.9	67
58	High dose bystander effects in spatially fractionated radiation therapy. <i>Cancer Letters</i> , 2015 , 356, 52-7	9.9	64
57	Gold nanoparticle cellular uptake, toxicity and radiosensitisation in hypoxic conditions. <i>Radiotherapy and Oncology</i> , 2014 , 110, 342-7	5.3	60
56	AGuIX from bench to bedside-Transfer of an ultras-small theranostic gadolinium-based nanoparticle to clinical medicine. <i>British Journal of Radiology</i> , 2019 , 92, 20180365	3.4	60
55	Hypoxia selects for androgen independent LNCaP cells with a more malignant geno- and phenotype. <i>International Journal of Cancer</i> , 2008 , 123, 760-8	7.5	53

54	A Quantitative Analysis of the Role of Oxygen Tension in FLASH Radiation Therapy. <i>International Journal of Radiation Oncology Biology Physics</i> , 2020 , 107, 539-547	4	48
53	A kinetic-based model of radiation-induced intercellular signalling. <i>PLoS ONE</i> , 2013 , 8, e54526	3.7	46
52	Roadmap for metal nanoparticles in radiation therapy: current status, translational challenges, and future directions. <i>Physics in Medicine and Biology</i> , 2020 , 65, 21RM02	3.8	45
51	Mechanistic Rationale to Target PTEN-Deficient Tumor Cells with Inhibitors of the DNA Damage Response Kinase ATM. <i>Cancer Research</i> , 2015 , 75, 2159-65	10.1	44
50	Energy Dependence of Gold Nanoparticle Radiosensitization in Plasmid DNA. <i>Journal of Physical Chemistry C</i> , 2011 , 115, 20160-20167	3.8	43
49	Bystander signalling: exploring clinical relevance through new approaches and new models. <i>Clinical Oncology</i> , 2013 , 25, 586-92	2.8	42
48	Small animal image-guided radiotherapy: status, considerations and potential for translational impact. <i>British Journal of Radiology</i> , 2015 , 88, 20140634	3.4	41
47	DNA damage responses following exposure to modulated radiation fields. <i>PLoS ONE</i> , 2012 , 7, e43326	3.7	38
46	Dose, dose-rate and field size effects on cell survival following exposure to non-uniform radiation fields. <i>Physics in Medicine and Biology</i> , 2012 , 57, 3197-206	3.8	35
45	Understanding High-Dose, Ultra-High Dose Rate, and Spatially Fractionated Radiation Therapy. <i>International Journal of Radiation Oncology Biology Physics</i> , 2020 , 107, 766-778	4	34
44	A mechanistic study of gold nanoparticle radiosensitisation using targeted microbeam irradiation. <i>Scientific Reports</i> , 2017 , 7, 44752	4.9	33
43	Preclinical evaluation of gold-DTDTPA nanoparticles as theranostic agents in prostate cancer radiotherapy. <i>Nanomedicine</i> , 2016 , 11, 2035-47	5.6	33
42	A computational model of cellular response to modulated radiation fields. <i>International Journal of Radiation Oncology Biology Physics</i> , 2012 , 84, 250-6	4	31
41	An in vitro study of the radiobiological effects of flattening filter free radiotherapy treatments. <i>Physics in Medicine and Biology</i> , 2013 , 58, N83-94	3.8	26
40	Protein disulphide isomerase as a target for nanoparticle-mediated sensitisation of cancer cells to radiation. <i>Nanotechnology</i> , 2016 , 27, 215101	3.4	26
39	Cell survival responses after exposure to modulated radiation fields. <i>Radiation Research</i> , 2012 , 177, 44-53	3.1	24
38	A study of the biological effects of modulated 6 MV radiation fields. <i>Physics in Medicine and Biology</i> , 2010 , 55, 1607-18	3.8	24
37	In-vitro investigation of out-of-field cell survival following the delivery of conformal, intensity-modulated radiation therapy (IMRT) and volumetric modulated arc therapy (VMAT) plans. <i>Physics in Medicine and Biology</i> , 2012 , 57, 6635-45	3.8	21

36	Small field dosimetry for the small animal radiotherapy research platform (SARRP). <i>Radiation Oncology</i> , 2017 , 12, 204	4.2	20
35	Inhibition of ataxia telangiectasia related-3 (ATR) improves therapeutic index in preclinical models of non-small cell lung cancer (NSCLC) radiotherapy. <i>Radiotherapy and Oncology</i> , 2017 , 124, 475-481	5.3	20
34	Temporal characterization and in vitro comparison of cell survival following the delivery of 3D-conformal, intensity-modulated radiation therapy (IMRT) and volumetric modulated arc therapy (VMAT). <i>Physics in Medicine and Biology</i> , 2011 , 56, 2445-57	3.8	19
33	Implications of intercellular signaling for radiation therapy: a theoretical dose-planning study. <i>International Journal of Radiation Oncology Biology Physics</i> , 2013 , 87, 1148-54	4	17
32	FLIP: A Targetable Mediator of Resistance to Radiation in Non-Small Cell Lung Cancer. <i>Molecular Cancer Therapeutics</i> , 2016 , 15, 2432-2441	6.1	17
31	Microbeam evolution: from single cell irradiation to pre-clinical studies. <i>International Journal of Radiation Biology</i> , 2018 , 94, 708-718	2.9	15
30	Low-dose radiation-induced risk in spermatogenesis. <i>International Journal of Radiation Biology</i> , 2017 , 93, 1291-1298	2.9	15
29	Cellular signalling effects in high precision radiotherapy. <i>Physics in Medicine and Biology</i> , 2015 , 60, 4551-648	6.4	13
28	Application of an Ex Vivo Tissue Model to Investigate Radiobiological Effects on Spermatogenesis. <i>Radiation Research</i> , 2018 , 189, 661-667	3.1	13
27	Investigating the potential impact of four-dimensional computed tomography (4DCT) on toxicity, outcomes and dose escalation for radical lung cancer radiotherapy. <i>Clinical Oncology</i> , 2014 , 26, 142-50	2.8	12
26	Relative biological effectiveness (RBE) and out-of-field cell survival responses to passive scattering and pencil beam scanning proton beam deliveries. <i>Physics in Medicine and Biology</i> , 2012 , 57, 6671-80	3.8	12
25	Modelling responses to spatially fractionated radiation fields using preclinical image-guided radiotherapy. <i>British Journal of Radiology</i> , 2017 , 90, 20160485	3.4	11
24	Fragmentation and plasmid strand breaks in pure and gold-doped DNA irradiated by beams of fast hydrogen atoms. <i>Physics in Medicine and Biology</i> , 2009 , 54, 4705-21	3.8	11
23	Integrating Small Animal Irradiators with Functional Imaging for Advanced Preclinical Radiotherapy Research. <i>Cancers</i> , 2019 , 11,	6.6	11
22	High-precision microbeam radiotherapy reveals testicular tissue-sparing effects for male fertility preservation. <i>Scientific Reports</i> , 2019 , 9, 12618	4.9	11
21	Preclinical models of radiation-induced lung damage: challenges and opportunities for small animal radiotherapy. <i>British Journal of Radiology</i> , 2019 , 92, 20180473	3.4	10
20	Prostate cancer radiotherapy: potential applications of metal nanoparticles for imaging and therapy. <i>British Journal of Radiology</i> , 2015 , 88, 20150256	3.4	10
19	History and current perspectives on the biological effects of high-dose spatial fractionation and high dose-rate approaches: GRID, Microbeam & FLASH radiotherapy. <i>British Journal of Radiology</i> , 2020 , 93, 20200217	3.4	10

18	Preclinical Evaluation of Dose-Volume Effects and Lung Toxicity Occurring In and Out-of-Field. <i>International Journal of Radiation Oncology Biology Physics</i> , 2019 , 103, 1231-1240	4	9
17	The Roles of HIF-1 α in Radiosensitivity and Radiation-Induced Bystander Effects Under Hypoxia. <i>Frontiers in Cell and Developmental Biology</i> , 2021 , 9, 637454	5.7	8
16	An overview of current practice in external beam radiation oncology with consideration to potential benefits and challenges for nanotechnology. <i>Cancer Nanotechnology</i> , 2017 , 8, 3	7.9	7
15	Precision Radiotherapy and Radiation Risk Assessment: How Do We Overcome Radiogenomic Diversity?. <i>Tohoku Journal of Experimental Medicine</i> , 2019 , 247, 223-235	2.4	7
14	Time and Cell Type Dependency of Survival Responses in Co-cultured Tumor and Fibroblast Cells after Exposure to Modulated Radiation Fields. <i>Radiation Research</i> , 2015 , 183, 656-64	3.1	7
13	The Impact of Hypoxia on Out-of-Field Cell Survival after Exposure to Modulated Radiation Fields. <i>Radiation Research</i> , 2017 , 188, 636-644	3.1	7
12	Impact of fractionation on out-of-field survival and DNA damage responses following exposure to intensity modulated radiation fields. <i>Physics in Medicine and Biology</i> , 2016 , 61, 515-26	3.8	6
11	Impact of superparamagnetic iron oxide nanoparticles on in vitro and in vivo radiosensitisation of cancer cells. <i>Radiation Oncology</i> , 2021 , 16, 104	4.2	6
10	Conventional in vivo irradiation procedures are insufficient to accurately determine tumor responses to non-uniform radiation fields. <i>International Journal of Radiation Biology</i> , 2015 , 91, 257-61	2.9	5
9	Investigation into the radiobiological consequences of pre-treatment verification imaging with megavoltage X-rays in radiotherapy. <i>British Journal of Radiology</i> , 2014 , 87, 20130781	3.4	4
8	Investigating the influence of respiratory motion on the radiation induced bystander effect in modulated radiotherapy. <i>Physics in Medicine and Biology</i> , 2013 , 58, 8311-22	3.8	4
7	Dual effects of radiation bystander signaling in urothelial cancer: purinergic-activation of apoptosis attenuates survival of urothelial cancer and normal urothelial cells. <i>Oncotarget</i> , 2017 , 8, 97331-97343	3.3	4
6	Modulating the unfolded protein response with ONC201 to impact on radiation response in prostate cancer cells. <i>Scientific Reports</i> , 2021 , 11, 4252	4.9	4
5	Development of a novel experimental model to investigate radiobiological implications of respiratory motion in advanced radiotherapy. <i>Physics in Medicine and Biology</i> , 2012 , 57, N411-20	3.8	3
4	Evaluation of a Novel Liquid Fiducial Marker, BioXmark, for Small Animal Image-Guided Radiotherapy Applications. <i>Cancers</i> , 2020 , 12,	6.6	2
3	Clinical and functional characterization of CXCR1/CXCR2 biology in the relapse and radiotherapy resistance of primary PTEN-deficient prostate carcinoma. <i>NAR Cancer</i> , 2020 , 2, zcaa012	5.2	1
2	Oxygen enhancement ratios of cancer cells after exposure to intensity modulated x-ray fields: DNA damage and cell survival. <i>Physics in Medicine and Biology</i> , 2021 , 66,	3.8	1
1	A scoping review of small animal image-guided radiotherapy research: Advances, impact and future opportunities in translational radiobiology.. <i>Clinical and Translational Radiation Oncology</i> , 2022 , 34, 112-119	4.6	0

