Karl T Butterworth

List of Publications by Year
in descending order

76	4,391	136885 32	106281 65
papers	citations	h-index	g-index
80	80	80	4506
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Cell-Specific Radiosensitization by Gold Nanoparticles at Megavoltage Radiation Energies. International Journal of Radiation Oncology Biology Physics, 2011, 79, 531-539.	0.4	388
2	Physical basis and biological mechanisms of gold nanoparticle radiosensitization. Nanoscale, 2012, 4, 4830.	2.8	376
3	Biological consequences of nanoscale energy deposition near irradiated heavy atom nanoparticles. Scientific Reports, 2011, 1, 18.	1.6	335
4	Gold nanoparticles for cancer radiotherapy: a review. Cancer Nanotechnology, 2016, 7, 8.	1.9	329
5	Evaluation of cytotoxicity and radiation enhancement using 1.9 nm gold particles: potential application for cancer therapy. Nanotechnology, 2010, 21, 295101.	1.3	194
6	Biological mechanisms of gold nanoparticle radiosensitization. Cancer Nanotechnology, 2017, 8, 2.	1.9	180
7	Nanodosimetric effects of gold nanoparticles in megavoltage radiation therapy. Radiotherapy and Oncology, 2011, 100, 412-416.	0.3	174
8	The use of theranostic gadolinium-based nanoprobes to improve radiotherapy efficacy. British Journal of Radiology, 2014, 87, 20140134.	1.0	167
9	Cell type-dependent uptake, localization, and cytotoxicity of 1.9 nm gold nanoparticles. International Journal of Nanomedicine, 2012, 7, 2673.	3.3	150
10	Imaging and radiation effects of gold nanoparticles in tumour cells. Scientific Reports, 2016, 6, 19442.	1.6	111
11	Roadmap for metal nanoparticles in radiation therapy: current status, translational challenges, and future directions. Physics in Medicine and Biology, 2020, 65, 21RM02.	1.6	101
12	The role of mitochondrial function in gold nanoparticle mediated radiosensitisation. Cancer Nanotechnology, 2014, 5, 5.	1.9	89
13	High dose bystander effects in spatially fractionated radiation therapy. Cancer Letters, 2015, 356, 52-57.	3.2	89
14	AGuIX^{Â®} from bench to bedsideâ€”Transfer of an ultrasmall theranostic gadolinium-based nanoparticle to clinical medicine. British Journal of Radiology, 2019, 92, 20180365.	1.0	86
15	A Quantitative Analysis of the Role of Oxygen Tension in FLASH Radiation Therapy. International Journal of Radiation Oncology Biology Physics, 2020, 107, 539-547.	0.4	84
16	Out-of-Field Cell Survival Following Exposure to Intensity-Modulated Radiation Fields. International Journal of Radiation Oncology Biology Physics, 2011, 79, 1516-1522.	0.4	83
17	Variation of Strand Break Yield for Plasmid DNA Irradiated with High-ZMetal Nanoparticles. Radiation Research, 2008, 170, 381-387.	0.7	81
18	Gold nanoparticle cellular uptake, toxicity and radiosensitisation in hypoxic conditions. Radiotherapy and Oncology, 2014, 110, 342-347.	0.3	72

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19	Understanding High-Dose, Ultra-High Dose Rate, and Spatially Fractionated Radiation Therapy. International Journal of Radiation Oncology Biology Physics, 2020, 107, 766-778.	0.4	70
20	Hypoxia selects for androgen independent LNCaP cells with a more malignant genoâ€•and phenotype. International Journal of Cancer, 2008, 123, 760-768.	2.3	64
21	Mechanistic Rationale to Target PTEN-Deficient Tumor Cells with Inhibitors of the DNA Damage Response Kinase ATM. Cancer Research, 2015, 75, 2159-2165.	0.4	58
22	A Kinetic-Based Model of Radiation-Induced Intercellular Signalling. PLoS ONE, 2013, 8, e54526.	1.1	55
23	Energy Dependence of Gold Nanoparticle Radiosensitization in Plasmid DNA. Journal of Physical Chemistry C, 2011, 115, 20160-20167.	1.5	50
24	A mechanistic study of gold nanoparticle radiosensitisation using targeted microbeam irradiation. Scientific Reports, 2017, 7, 44752.	1.6	50
25	Small animal image-guided radiotherapy: status, considerations and potential for translational impact. British Journal of Radiology, 2015, 88, 20140634.	1.0	48
26	Bystander Signalling: Exploring Clinical Relevance Through New Approaches and New Models. Clinical Oncology, 2013, 25, 586-592.	0.6	46
27	DNA Damage Responses following Exposure to Modulated Radiation Fields. PLoS ONE, 2012, 7, e43326.	1.1	44
28	Dose, dose-rate and field size effects on cell survival following exposure to non-uniform radiation fields. Physics in Medicine and Biology, 2012, 57, 3197-3206.	1.6	43
29	Preclinical evaluation of gold-DTDTPA nanoparticles as theranostic agents in prostate cancer radiotherapy. Nanomedicine, 2016, 11, 2035-2047.	1.7	40
30	An<i>in vitro</i>study of the radiobiological effects of flattening filter free radiotherapy treatments. Physics in Medicine and Biology, 2013, 58, N83-N94.	1.6	38
31	Protein disulphide isomerase as a target for nanoparticle-mediated sensitisation of cancer cells to radiation. Nanotechnology, 2016, 27, 215101.	1.3	36
32	A Computational Model of Cellular Response to Modulated Radiation Fields. International Journal of Radiation Oncology Biology Physics, 2012, 84, 250-256.	0.4	35
33	Inhibition of ataxia telangiectasia related-3 (ATR) improves therapeutic index in preclinical models of non-small cell lung cancer (NSCLC) radiotherapy. Radiotherapy and Oncology, 2017, 124, 475-481.	0.3	30
34	Small field dosimetry for the small animal radiotherapy research platform (SARRP). Radiation Oncology, 2017, 12, 204.	1.2	30
35	A study of the biological effects of modulated 6 MV radiation fields. Physics in Medicine and Biology, 2010, 55, 1607-1618.	1.6	29
36	Microbeam evolution: from single cell irradiation to pre-clinical studies. International Journal of Radiation Biology, 2018, 94, 708-718.	1.0	27

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37	Low-dose radiation-induced risk in spermatogenesis. International Journal of Radiation Biology, 2017, 93, 1291-1298.	1.0	26
38	Cell Survival Responses after Exposure to Modulated Radiation Fields. Radiation Research, 2012, 177, 44-51.	0.7	25
39	Temporal characterization and<i>in vitro</i>comparison of cell survival following the delivery of 3D-conformal, intensity-modulated radiation therapy (IMRT) and volumetric modulated arc therapy (VMAT). Physics in Medicine and Biology, 2011, 56, 2445-2457.	1.6	24
40	<i>In-vitro</i>investigation of out-of-field cell survival following the delivery of conformal, intensity-modulated radiation therapy (IMRT) and volumetric modulated arc therapy (VMAT) plans. Physics in Medicine and Biology, 2012, 57, 6635-6645.	1.6	24
41	History and current perspectives on the biological effects of high-dose spatial fractionation and high dose-rate approaches: GRID, Microbeam & FLASH radiotherapy. British Journal of Radiology, 2020, 93, 20200217.	1.0	24
42	Impact of superparamagnetic iron oxide nanoparticles on in vitro and in vivo radiosensitisation of cancer cells. Radiation Oncology, 2021, 16, 104.	1.2	24
43	FLIP: A Targetable Mediator of Resistance to Radiation in Nonâ€“Small Cell Lung Cancer. Molecular Cancer Therapeutics, 2016, 15, 2432-2441.	1.9	21
44	Implications of Intercellular Signaling for Radiation Therapy: A Theoretical Dose-Planning Study. International Journal of Radiation Oncology Biology Physics, 2013, 87, 1148-1154.	0.4	20
45	Integrating Small Animal Irradiators withFunctional Imaging for Advanced Preclinical Radiotherapy Research. Cancers, 2019, 11, 170.	1.7	20
46	High-precision microbeam radiotherapy reveals testicular tissue-sparing effects for male fertility preservation. Scientific Reports, 2019, 9, 12618.	1.6	20
47	The Roles of HIF-1Î± in Radiosensitivity and Radiation-Induced Bystander Effects Under Hypoxia. Frontiers in Cell and Developmental Biology, 2021, 9, 637454.	1.8	19
48	Preclinical Evaluation of Dose-Volume Effects and Lung Toxicity Occurring In and Out-of-Field. International Journal of Radiation Oncology Biology Physics, 2019, 103, 1231-1240.	0.4	17
49	Relative biological effectiveness (RBE) and out-of-field cell survival responses to passive scattering and pencil beam scanning proton beam deliveries. Physics in Medicine and Biology, 2012, 57, 6671-6680.	1.6	15
50	Investigating the Potential Impact of Four-dimensional Computed Tomography (4DCT) on Toxicity, Outcomes and Dose Escalation for Radical Lung Cancer Radiotherapy. Clinical Oncology, 2014, 26, 142-150.	0.6	15
51	Cellular signalling effects in high precision radiotherapy. Physics in Medicine and Biology, 2015, 60, 4551-4564.	1.6	15
52	Application of an<i>Ex Vivo</i>Tissue Model to Investigate Radiobiological Effects on Spermatogenesis. Radiation Research, 2018, 189, 661-667.	0.7	15
53	Preclinical models of radiation-induced lung damage: challenges and opportunities for small animal radiotherapy. British Journal of Radiology, 2019, 92, 20180473.	1.0	15
54	Modelling responses to spatially fractionated radiation fields using preclinical image-guided radiotherapy. British Journal of Radiology, 2017, 90, 20160485.	1.0	14

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55	Fragmentation and plasmid strand breaks in pure and gold-doped DNA irradiated by beams of fast hydrogen atoms. Physics in Medicine and Biology, 2009, 54, 4705-4721.	1.6	13
56	An overview of current practice in external beam radiation oncology with consideration to potential benefits and challenges for nanotechnology. Cancer Nanotechnology, 2017, 8, 3.	1.9	12
57	A scoping review of small animal image-guided radiotherapy research: Advances, impact and future opportunities in translational radiobiology. Clinical and Translational Radiation Oncology, 2022, 34, 112-119.	0.9	11
58	Prostate cancer radiotherapy: potential applications of metal nanoparticles for imaging and therapy. British Journal of Radiology, 2015, 88, 20150256.	1.0	10
59	Time and Cell Type Dependency of Survival Responses in Co-cultured Tumor and Fibroblast Cells after Exposure to Modulated Radiation Fields. Radiation Research, 2015, 183, 656-664.	0.7	10
60	The Impact of Hypoxia on Out-of-Field Cell Survival after Exposure to Modulated Radiation Fields. Radiation Research, 2017, 188, 716-724.	0.7	10
61	Precision Radiotherapy and Radiation Risk Assessment: How Do We Overcome Radiogenomic Diversity?. Tohoku Journal of Experimental Medicine, 2019, 247, 223-235.	0.5	9
62	Modulating the unfolded protein response with ONC201 to impact on radiation response in prostate cancer cells. Scientific Reports, 2021, 11, 4252.	1.6	9
63	Evaluation of a Novel Liquid Fiducial Marker, BioXmarkÂ®, for Small Animal Image-Guided Radiotherapy Applications. Cancers, 2020, 12, 1276.	1.7	9
64	Clinical and functional characterization of CXCR1/CXCR2 biology in the relapse and radiotherapy resistance of primary PTEN-deficient prostate carcinoma. NAR Cancer, 2020, 2, zcaa012.	1.6	8
65	Impact of fractionation on out-of-field survival and DNA damage responses following exposure to intensity modulated radiation fields. Physics in Medicine and Biology, 2016, 61, 515-526.	1.6	7
66	Animal Models for Radiotherapy Research: All (Animal) Models Are Wrong but Some Are Useful. Cancers, 2021, 13, 1319.	1.7	6
67	Investigation into the radiobiological consequences of pre-treatment verification imaging with megavoltage X-rays in radiotherapy. British Journal of Radiology, 2014, 87, 20130781.	1.0	5
68	Conventional in vivo irradiation procedures are insufficient to accurately determine tumor responses to non-uniform radiation fields. International Journal of Radiation Biology, 2015, 91, 257-261.	1.0	5
69	Dual effects of radiation bystander signaling in urothelial cancer: purinergic-activation of apoptosis attenuates survival of urothelial cancer and normal urothelial cells. Oncotarget, 2017, 8, 97331-97343.	0.8	5
70	Investigating the influence of respiratory motion on the radiation induced bystander effect in modulated radiotherapy. Physics in Medicine and Biology, 2013, 58, 8311-8322.	1.6	4
71	Oxygen enhancement ratios of cancer cells after exposure to intensity modulated x-ray fields: DNA damage and cell survival. Physics in Medicine and Biology, 2021, 66, 075014.	1.6	4
72	Development of a novel experimental model to investigate radiobiological implications of respiratory motion in advanced radiotherapy. Physics in Medicine and Biology, 2012, 57, N411-N420.	1.6	3

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73	ATM Kinase Inhibition Preferentially Sensitises PTEN-Deficient Prostate Tumour Cells to Ionising Radiation. Cancers, 2021, 13, 79.	1.7	2
74	SU-GG-T-504: Design and Verification of a Phantom for Accurate Delivery of Prostate Treatment Plans to Cells In-Vitro. Medical Physics, 2010, 37, 3302-3302.	1.6	0
75	Abstract 835: Sensitivity of PTEN deficient non-small cell lung cancer to ionising radiation through inhibition of ataxia terangiectasia related 3 kinase (ATR). , 2017, , .		0
76	Abstract B035: Radio-resistance of PTEN-deficient prostate tumors is enhanced by treatment-induced chemokine signaling and is associated with biochemical recurrence and development of metastasis. , 2018, , .		0