

# Andrew Jirasek

## List of Publications by Year in descending order

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86  
papers

3,092  
citations

186265

28  
h-index

155660

55  
g-index

87  
all docs

87  
docs citations

87  
times ranked

2048  
citing authors

#	ARTICLE	IF	CITATIONS
1	Polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2010, 55, R1-R63.	3.0	755
2	Investigation of Selected Baseline Removal Techniques as Candidates for Automated Implementation. <i>Applied Spectroscopy</i> , 2005, 59, 545-574.	2.2	284
3	Polymer gel dosimetry using x-ray computed tomography: a feasibility study. <i>Physics in Medicine and Biology</i> , 2000, 45, 2559-2571.	3.0	195
4	Variability in Raman Spectra of Single Human Tumor Cells Cultured <i>in vitro</i> : Correlation with Cell Cycle and Culture Confluency. <i>Applied Spectroscopy</i> , 2010, 64, 871-887.	2.2	99
5	Polymer gel dosimeters with enhanced sensitivity for use in x-ray CT polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2010, 55, 5269-5281.	3.0	76
6	Investigation of tetrakis hydroxymethyl phosphonium chloride as an antioxidant for use in x-ray computed tomography polyacrylamide gel dosimetry. <i>Physics in Medicine and Biology</i> , 2006, 51, 1891-1906.	3.0	75
7	Accuracy and Precision of Manual Baseline Determination. <i>Applied Spectroscopy</i> , 2004, 58, 1488-1499.	2.2	73
8	Characterization of monomer/crosslinker consumption and polymer formation observed in FT-Raman spectra of irradiated polyacrylamide gels. <i>Physics in Medicine and Biology</i> , 2001, 46, 151-165.	3.0	71
9	Technical considerations for implementation of x-ray CT polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2005, 50, 1727-1745.	3.0	63
10	Preliminary investigation of the NMR, optical and x-ray CT dose response of polymer gel dosimeters incorporating cosolvents to improve dose sensitivity. <i>Physics in Medicine and Biology</i> , 2009, 54, 2779-2790.	3.0	58
11	Biochemical signatures of <i>in vitro</i> radiation response in human lung, breast and prostate tumour cells observed with Raman spectroscopy. <i>Physics in Medicine and Biology</i> , 2011, 56, 6839-6855.	3.0	58
12	Cosolvent-free polymer gel dosimeters with improved dose sensitivity and resolution for x-ray CT dose response. <i>Physics in Medicine and Biology</i> , 2011, 56, 2091-2102.	3.0	58
13	Raman spectroscopy identifies radiation response in human non-small cell lung cancer xenografts. <i>Scientific Reports</i> , 2016, 6, 21006.	3.3	57
14	Raman spectroscopy of single human tumour cells exposed to ionizing radiation <i>in vitro</i> . <i>Physics in Medicine and Biology</i> , 2011, 56, 19-38.	3.0	52
15	Relative effectiveness of polyacrylamide gel dosimeters applied to proton beams: Fourier transform Raman observations and track structure calculations. <i>Medical Physics</i> , 2002, 29, 569-577.	3.0	51
16	Effects of gel composition on the radiation induced density change in PAG polymer gel dosimeters: a model and experimental investigations. <i>Physics in Medicine and Biology</i> , 2004, 49, 2477-2490.	3.0	50
17	CT gel dosimetry technique: Comparison of a planned and measured 3D stereotactic dose volume. <i>Journal of Applied Clinical Medical Physics</i> , 2002, 3, 110.	1.9	50
18	A Raman Spectroscopic Study of Cell Response to Clinical Doses of Ionizing Radiation. <i>Applied Spectroscopy</i> , 2015, 69, 193-204.	2.2	46

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19	Effects of crosslinker fraction in polymer gel dosimeters using FT Raman spectroscopy. <i>Physics in Medicine and Biology</i> , 2001, 46, 1949-1961.	3.0	44
20	An x-ray CT polymer gel dosimetry prototype: II. Gel characterization and clinical application. <i>Physics in Medicine and Biology</i> , 2012, 57, 3155-3175.	3.0	44
21	Adaptive mean filtering for noise reduction in CT polymer gel dosimetry. <i>Medical Physics</i> , 2008, 35, 344-355.	3.0	42
22	Statistical Correlation Between SERS Intensity and Nanoparticle Cluster Size. <i>Journal of Physical Chemistry C</i> , 2013, 117, 16596-16605.	3.1	41
23	Spectroscopic Studies of the Anaerobic Enzyme-Substrate Complex of Catechol 1,2-Dioxygenase. <i>Journal of the American Chemical Society</i> , 2005, 127, 16882-16891.	13.7	39
24	Investigation of a 2D two-point maximum entropy regularization method for signal-to-noise ratio enhancement: application to CT polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2006, 51, 2599-2617.	3.0	30
25	X-ray CT dose in normoxic polyacrylamide gel dosimetry. <i>Medical Physics</i> , 2007, 34, 1934-1943.	3.0	30
26	An x-ray CT polymer gel dosimetry prototype: I. Remnant artefact removal. <i>Physics in Medicine and Biology</i> , 2012, 57, 3137-3153.	3.0	30
27	Ex Vivo Detection of Circulating Tumor Cells from Whole Blood by Direct Nanoparticle Visualization. <i>ACS Nano</i> , 2018, 12, 1902-1909.	14.6	30
28	Radiation-Induced Glycogen Accumulation Detected by Single Cell Raman Spectroscopy Is Associated with Radioresistance that Can Be Reversed by Metformin. <i>PLoS ONE</i> , 2015, 10, e0135356.	2.5	28
29	A prototype fan-beam optical CT scanner for 3D dosimetry. <i>Medical Physics</i> , 2013, 40, 061712.	3.0	27
30	Plasmonic labeling of subcellular compartments in cancer cells: multiplexing with fine-tuned gold and silver nanoshells. <i>Chemical Science</i> , 2017, 8, 3038-3046.	7.4	27
31	CT gel dosimetry technique: Comparison of a planned and measured 3D stereotactic dose volume. <i>Journal of Applied Clinical Medical Physics</i> , 2002, 3, 110-118.	1.9	26
32	Effects of glycerol co-solvent on the rate and form of polymer gel dose response. <i>Physics in Medicine and Biology</i> , 2009, 54, 907-918.	3.0	26
33	Discrimination between UV radiation-induced and thermally induced spectral changes in AT-paired DNA oligomers using UV resonance Raman spectroscopy. <i>Journal of Raman Spectroscopy</i> , 2006, 37, 1368-1380.	2.5	24
34	Delivered Dose Distribution Visualized Directly With Onboard kV-CBCT: Proof of Principle. <i>International Journal of Radiation Oncology Biology Physics</i> , 2019, 103, 1271-1279.	0.8	22
35	Experimental investigations of polymer gel dosimeters. <i>Journal of Physics: Conference Series</i> , 2006, 56, 23-34.	0.4	20
36	Dose calibration optimization and error propagation in polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2014, 59, 597-614.	3.0	20

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37	3D printed plastics for beam modulation in proton therapy. <i>Physics in Medicine and Biology</i> , 2015, 60, N231-N240.	3.0	20
38	Identification and Interpretation of Generalized Two-Dimensional Correlation Spectroscopy Features through Decomposition of the Perturbation Domain. <i>Applied Spectroscopy</i> , 2003, 57, 1561-1574.	2.2	19
39	Evaluation of accuracy and precision in polymer gel dosimetry. <i>Medical Physics</i> , 2017, 44, 736-746.	3.0	19
40	Raman Spectroscopic Signatures Reveal Distinct Biochemical and Temporal Changes in Irradiated Human Breast Adenocarcinoma Xenografts. <i>Radiation Research</i> , 2018, 189, 497.	1.5	19
41	Uncertainty in 3D gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2015, 573, 012008.	0.4	18
42	Breast cancer subtype specific biochemical responses to radiation. <i>Analyst, The</i> , 2018, 143, 3850-3858.	3.5	18
43	Raman spectroscopy and group and basis-restricted non negative matrix factorisation identifies radiation induced metabolic changes in human cancer cells. <i>Scientific Reports</i> , 2021, 11, 3853.	3.3	16
44	Introduction of a deformable x-ray CT polymer gel dosimetry system. <i>Physics in Medicine and Biology</i> , 2018, 63, 075014.	3.0	14
45	Monitor Ionizing Radiation-Induced Cellular Responses with Raman Spectroscopy, Non-Negative Matrix Factorization, and Non-Negative Least Squares. <i>Applied Spectroscopy</i> , 2020, 74, 701-711.	2.2	14
46	Revealing System Dynamics through Decomposition of the Perturbation Domain in Two-Dimensional Correlation Spectroscopy. <i>Applied Spectroscopy</i> , 2003, 57, 1551-1560.	2.2	13
47	Two-Point Maximum Entropy Noise Discrimination in Spectra over a Range of Baseline Offsets and Signal-to-Noise Ratios. <i>Applied Spectroscopy</i> , 2007, 61, 157-164.	2.2	11
48	The Use of Ultraviolet Resonance Raman Spectroscopy in the Analysis of Ionizing-Radiation-Induced Damage in DNA. <i>Applied Spectroscopy</i> , 2009, 63, 412-422.	2.2	11
49	Dose rate properties of NIPAM-based x-ray CT polymer gel dosimeters. <i>Physics in Medicine and Biology</i> , 2015, 60, 4399-4411.	3.0	11
50	Characteristics of a Ce-Doped silica fiber irradiated by 74â€MeV protons. <i>Radiation Measurements</i> , 2018, 114, 19-24.	1.4	11
51	Haralick texture feature analysis for quantifying radiation response heterogeneity in murine models observed using Raman spectroscopic mapping. <i>PLoS ONE</i> , 2019, 14, e0212225.	2.5	11
52	Incorporating multislice imaging into x-ray CT polymer gel dosimetry. <i>Medical Physics</i> , 2015, 42, 1666-1677.	3.0	10
53	Design and application of 3D-printed stepless beam modulators in proton therapy. <i>Physics in Medicine and Biology</i> , 2016, 61, N276-N290.	3.0	9
54	Raman spectroscopy detects metabolic signatures of radiation response and hypoxic fluctuations in non-small cell lung cancer. <i>BMC Cancer</i> , 2019, 19, 474.	2.6	9

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55	Group and Basis Restricted Non-Negative Matrix Factorization and Random Forest for Molecular Histotype Classification and Raman Biomarker Monitoring in Breast Cancer. <i>Applied Spectroscopy</i> , 2022, 76, 462-474.	2.2	9
56	How does the chemistry of polymer gel dosimeters affect their performance?. <i>Journal of Physics: Conference Series</i> , 2009, 164, 012003.	0.4	8
57	An overview of polymer gel dosimetry using x-ray CT. <i>Journal of Physics: Conference Series</i> , 2009, 164, 012038.	0.4	8
58	Evaluation of an x-ray CT polymer gel dosimetry system in the measurement of deformed dose. <i>Biomedical Physics and Engineering Express</i> , 2020, 6, 035031.	1.2	8
59	SU-E-T-93: A CT Polymer Gel Dosimetry System for End-To-End Dosimetry. <i>Medical Physics</i> , 2011, 38, 3507-3507.	3.0	8
60	A Matrix-Based Two-Dimensional Regularization Algorithm for Signal-to-Noise Ratio Enhancement of Multidimensional Spectral Data. <i>Applied Spectroscopy</i> , 2010, 64, 1209-1219.	2.2	7
61	Improving the quality of reconstructed X-ray CT images of polymer gel dosimeters: zero-scan coupled with adaptive mean filtering. <i>Australasian Physical and Engineering Sciences in Medicine</i> , 2017, 40, 159-165.	1.3	7
62	Linac-integrated kV-cone beam CT polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2020, 65, 225030.	3.0	7
63	Optimization of solid tank design for fan-beam optical CT based 3D radiation dosimetry. <i>Physics in Medicine and Biology</i> , 2020, 65, 245012.	3.0	7
64	A prototype fan-beam optical CT scanner for polymer gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2009, 164, 012025.	0.4	5
65	Considerations for x-ray CT polymer gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2013, 444, 012005.	0.4	5
66	Radiation-induced refraction artifacts in the optical CT readout of polymer gel dosimeters. <i>Medical Physics</i> , 2014, 41, 112102.	3.0	5
67	Experimental properties of THPC based normoxic polyacrylamide gels for use in x-ray computed tomography gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2006, 56, 263-267.	0.4	4
68	Alternative imaging modalities for polymer gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2010, 250, 012070.	0.4	4
69	Superiorization versus regularization: A comparison of algorithms for solving image reconstruction problems with applications in computed tomography. <i>Medical Physics</i> , 2022, 49, 1065-1082.	3.0	4
70	Investigation of a two-point maximum entropy regularization method for signal enhancement applied to magnetoencephalography data. <i>Biomedical Signal Processing and Control</i> , 2008, 3, 78-87.	5.7	3
71	Preliminary investigations with a photodiode-based fan-beam optical CT scanner. <i>Journal of Physics: Conference Series</i> , 2010, 250, 012024.	0.4	3
72	Isopropanol-based polymer gel dosimeters for use with x-ray CT imaging. <i>Journal of Physics: Conference Series</i> , 2010, 250, 012072.	0.4	3

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73	Optical and X-ray computed tomography scanning of 3D dosimeters. Journal of Physics: Conference Series, 2017, 847, 012019.	0.4	3
74	A Methodology for Dynamic Material Characterizations via Terahertz Time-Domain Spectroscopy. IEEE Transactions on Terahertz Science and Technology, 2020, 10, 282-291.	3.1	3
75	The response of PAG density to dose: a model and experimental investigations. Journal of Physics: Conference Series, 2004, 3, 163-167.	0.4	2
76	Preliminary investigation of the NMR, optical and x-ray CT dose-response of polymer gel dosimeters with cosolvents and increased crosslinker levels. Journal of Physics: Conference Series, 2009, 164, 012017.	0.4	2
77	MEG signal enhancement using a two-point maximum entropy regularization method. International Congress Series, 2007, 1300, 241-244.	0.2	1
78	Recent developments with a prototype fan-beam optical CT scanner. Journal of Physics: Conference Series, 2013, 444, 012066.	0.4	1
79	Assessment of the effects of CT dose in averaged x-ray CT images of a dose-sensitive polymer gel. Journal of Physics: Conference Series, 2015, 573, 012075.	0.4	1
80	Assessment of CT dose in X-ray CT polyacrylamide gel dosimetry. Journal of Physics: Conference Series, 2006, 56, 268-271.	0.4	0
81	Characterization of the essential dosimetric properties of cosolvent-free polymer gel dosimeters: Recent progress in x-ray CT based normoxic polymer gel dosimetry. Journal of Physics: Conference Series, 2013, 444, 012092.	0.4	0
82	Revealing the impact of radiation-induced refractive index changes in polymer gel dosimeters. Journal of Physics: Conference Series, 2013, 444, 012077.	0.4	0
83	Accuracy and reproducibility in x-ray computed tomography polymer gel dosimetry. Journal of Physics: Conference Series, 2017, 847, 012047.	0.4	0
84	Sci-Fri AM: Mountain - 04: Label-free Raman spectroscopy of single tumour cells detects early radiation-induced glycogen synthesis associated with increased radiation resistance. Medical Physics, 2014, 41, 23-24.	3.0	0
85	Investigation of X-ray CT dose in normoxic polyacrylamide gel dosimetry. , 2007, , 1873-1876.		0
86	Simulated design optimization of a prototype solid tank optical CT scanner for 3D radiation dosimetry. Journal of Physics: Conference Series, 2022, 2167, 012009.	0.4	0