Gregory C Sharp

List of Publications by Year in Descending Order

107 papers	3,585 citations	30 h-index	58 g-index
114 ext. papers	4,235 ext. citations	3.3 avg, IF	5.03 L-index

#	Paper	IF	Citations
107	Adaptive proton therapy. *Physics in Medicine and Biology*, **2021**, 66,	3.8	7
106	Physics of Particle Beam and Hypofractionated Beam Delivery in NSCLC. *Seminars in Radiation Oncology*, **2021**, 31, 162-169	5.5	0
105	Anatomic changes in head and neck intensity-modulated proton therapy: Comparison between robust optimization and online adaptation. *Radiotherapy and Oncology*, **2021**, 159, 39-47	5.3	5
104	Technical Note: Cumulative dose modeling for organ motion management in MRI-guided radiation therapy. *Medical Physics*, **2021**, 48, 597-604	4.4	1
103	Comparison of weekly and daily online adaptation for head and neck intensity-modulated proton therapy. *Physics in Medicine and Biology*, **2021**,	3.8	5
102	Modeling RBE-weighted dose variations in irregularly moving abdominal targets treated with carbon ion beams. *Medical Physics*, **2020**, 47, 2768-2778	4.4	3
101	Evaluation of CBCT scatter correction using deep convolutional neural networks for head and neck adaptive proton therapy. *Physics in Medicine and Biology*, **2020**,	3.8	15
100	A new respiratory monitor system for four-dimensional computed tomography by measuring the pressure change on the back of body. *British Journal of Radiology*, **2020**, 93, 20190303	3.4	1
99	Beam angle optimization using angular dependency of range variation assessed via water equivalent path length (WEPL) calculation for head and neck proton therapy. *Physica Medica*, **2020**, 69, 19-27	2.7	4
98	Technical Note: A novel dosimeter improves total skin electron therapy surface dosimetry workflow. *Journal of Applied Clinical Medical Physics*, **2020**, 21, 158-162	2.3	2
97	Evaluation of an scatter correction algorithm for cone-beam computed tomography based range and dose calculations in proton therapy. *Physics and Imaging in Radiation Oncology*, **2020**, 16, 89-94	3.1	3
96	Iterative optimization of relative stopping power by single detector based multi-projection proton radiography. *Physics in Medicine and Biology*, **2019**, 64, 065022	3.8	6
95	Validation of a model for physical dose variations in irregularly moving targets treated with carbon ion beams. *Medical Physics*, **2019**, 46, 3663-3673	4.4	7
94	Differential inflammatory response dynamics in normal lung following stereotactic body radiation therapy with protons versus photons. *Radiotherapy and Oncology*, **2019**, 136, 169-175	5.3	5
93	Multi-organ segmentation of the head and neck area: an efficient hierarchical neural networks approach. *International Journal of Computer Assisted Radiology and Surgery*, **2019**, 14, 745-754	3.9	21
92	Impact of aeration change and beam arrangement on the robustness of proton plans. *Journal of Applied Clinical Medical Physics*, **2019**, 20, 14-21	2.3	7
91	Intra-fraction motion prediction in MRI-guided radiation therapy using Markov processes. *Physics in Medicine and Biology*, **2019**, 64, 195006	3.8	1

90	A single detector energy-resolved proton radiography system: a proof of principle study by Monte Carlo simulations. *Physics in Medicine and Biology*, **2019**, 64, 025016	3.8	3
89	Density overwrites of internal tumor volumes in intensity modulated proton therapy plans for mobile lung tumors. *Physics in Medicine and Biology*, **2018**, 63, 035023	3.8	11
88	Impact of interfractional motion on hypofractionated pencil beam scanning proton therapy and VMAT delivery for prostate cancer. *Medical Physics*, **2018**, 45, 4011	4.4	6
87	Autosegmentation for thoracic radiation treatment planning: A grand challenge at AAPM 2017. *Medical Physics*, **2018**, 45, 4568-4581	4.4	96
86	Experimental validation of two dual-energy CT methods for proton therapy using heterogeneous tissue samples. *Medical Physics*, **2018**, 45, 48-59	4.4	49
85	Why rankings of biomedical image analysis competitions should be interpreted with care. *Nature Communications*, **2018**, 9, 5217	17.4	112
84	Advanced Multimodal Methods for Cranial Pseudo-CT Generation Validated by IMRT and VMAT Radiation Therapy Plans. *International Journal of Radiation Oncology Biology Physics*, **2018**, 102, 792-800	4	4
83	How to Exploit Weaknesses in Biomedical Challenge Design and Organization. *Lecture Notes in Computer Science*, **2018**, 388-395	0.9	5
82	Subject-specific Brain Tumor Growth Modelling via An Efficient Bayesian Inference Framework. *Proceedings of SPIE*, **2018**, 10574,	1.7	1
81	Multi atlas based segmentation: should we prefer the best atlas group over the group of best atlases?. *Physics in Medicine and Biology*, **2018**, 63, 12NT01	3.8	13
80	Proton range shift analysis on brain pseudo-CT generated from T1 and T2 MR. *Acta Oncologica*, **2018**, 57, 1521-1531	3.2	20
79	Kilovoltage projection streaming-based tracking application (KiPSTA): First clinical implementation during spine stereotactic radiation surgery. *Advances in Radiation Oncology*, **2018**, 3, 682-692	3.3	2
78	Evaluation of segmentation methods on head and neck CT: Auto-segmentation challenge 2015. *Medical Physics*, **2017**, 44, 2020-2036	4.4	125
77	Water equivalent path length calculations using scatter-corrected head and neck CBCT images to evaluate patients for adaptive proton therapy. *Physics in Medicine and Biology*, **2017**, 62, 59-72	3.8	14
76	Clinical evaluation of a novel transmission detector for 3D quality assurance of IMRT and SBRT. *Biomedical Physics and Engineering Express*, **2017**, 3, 055010	1.5	3
75	Improvement of single detector proton radiography by incorporating intensity of time-resolved dose rate functions. *Physics in Medicine and Biology*, **2017**, 63, 015030	3.8	11
74	Investigation of real tissue water equivalent path lengths using an efficient dose extinction method. *Physics in Medicine and Biology*, **2017**, 62, 5640-5651	3.8	5
73	Deep Neural Networks for Fast Segmentation of 3D Medical Images. *Lecture Notes in Computer Science*, **2016**, 158-165	0.9	38

72	A multiple-image-based method to evaluate the performance of deformable image registration in the pelvis. *Physics in Medicine and Biology*, **2016**, 61, 6172-80	3.8	3
71	Gain Correction for an X-ray Imaging System With a Movable Flat Panel Detector and Intrinsic Localization Crosshair. *Technology in Cancer Research and Treatment*, **2016**, 15, 387-95	2.7	1
70	A Prospective Comparison of the Effects of Interfractional Variations on Proton Therapy and Intensity Modulated Radiation Therapy for Prostate Cancer. *International Journal of Radiation Oncology Biology Physics*, **2016**, 95, 444-453	4	12
69	A Stochastic Approach to Diffeomorphic Point Set Registration with Landmark Constraints. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2016**, 38, 238-51	13.3	12
68	Fast automatic 3D liver segmentation based on a three-level AdaBoost-guided active shape model. *Medical Physics*, **2016**, 43, 2421	4.4	21
67	Investigating deformable image registration and scatter correction for CBCT-based dose calculation in adaptive IMPT. *Medical Physics*, **2016**, 43, 5635	4.4	62
66	Technical Note: plastimatch mabs, an open source tool for automatic image segmentation. *Medical Physics*, **2016**, 43, 5155	4.4	34
65	Investigation of cone-beam CT image quality trade-off for image-guided radiation therapy. *Physics in Medicine and Biology*, **2016**, 61, 3317-46	3.8	5
64	A Contralateral Esophagus-Sparing Technique to Limit Severe Esophagitis Associated With Concurrent High-Dose Radiation and Chemotherapy in Patients With Thoracic Malignancies. *International Journal of Radiation Oncology Biology Physics*, **2015**, 92, 803-10	4	24
63	Proton dose calculation on scatter-corrected CBCT image: Feasibility study for adaptive proton therapy. *Medical Physics*, **2015**, 42, 4449-59	4.4	75
62	Performing radiation therapy research using the open-source SlicerRT toolkit. *IFMBE Proceedings*, **2015**, 622-625	0.2	2
61	Clinical implementation and error sensitivity of a 3D quality assurance protocol for prostate and thoracic IMRT. *Journal of Applied Clinical Medical Physics*, **2015**, 16, 179-192	2.3	4
60	The distance discordance metric-a novel approach to quantifying spatial uncertainties in intra- and inter-patient deformable image registration. *Physics in Medicine and Biology*, **2014**, 59, 733-46	3.8	19
59	2D/4D marker-free tumor tracking using 4D CBCT as the reference image. *Physics in Medicine and Biology*, **2014**, 59, 2219-33	3.8	10
58	Automatic segmentation of head and neck CT images for radiotherapy treatment planning using multiple atlases, statistical appearance models, and geodesic active contours. *Medical Physics*, **2014** , 41, 051910	4.4	81
57	Correlation of 18F-FDG PET avid volumes on pre-radiation therapy and post-radiation therapy FDG PET scans in recurrent lung cancer. In reply to Saraiya et al. *International Journal of Radiation Oncology Biology Physics*, **2014**, 90, 969-70	4	1
56	Computing proton dose to irregularly moving targets. *Physics in Medicine and Biology*, **2014**, 59, 4261-73	3.8	7
55	Vision 20/20: perspectives on automated image segmentation for radiotherapy. *Medical Physics*, **2014**, 41, 050902	4.4	174

54	Correlation of (18)F-FDG avid volumes on pre-radiation therapy and post-radiation therapy FDG PET scans in recurrent lung cancer. *International Journal of Radiation Oncology Biology Physics*, **2014**, 89, 137-44	4	20
53	Scale invariant feature transform in adaptive radiation therapy: a tool for deformable image registration assessment and re-planning indication. *Physics in Medicine and Biology*, **2013**, 58, 287-99	3.8	53
52	Robust fluoroscopic tracking of fiducial markers: exploiting the spatial constraints. *Physics in Medicine and Biology*, **2013**, 58, 1789-808	3.8	6
51	Hypofractionated proton therapy for prostate cancer: dose delivery uncertainty due to interfractional motion. *Medical Physics*, **2013**, 40, 071714	4.4	6
50	PlastimatchÂ An Open-Source Software for Radiotherapy Imaging **2013**, 107-114		1
49	Deformable Registration Using Optical-Flow Methods **2013**, 95-106		
48	Contour-driven regression for label inference in atlas-based segmentation. *Lecture Notes in Computer Science*, **2013**, 16, 211-8	0.9	12
47	A four-dimensional computed tomography analysis of multiorgan abdominal motion. *International Journal of Radiation Oncology Biology Physics*, **2012**, 83, 435-41	4	47
46	A voluntary breath-hold treatment technique for the left breast with unfavorable cardiac anatomy using surface imaging. *International Journal of Radiation Oncology Biology Physics*, **2012**, 84, e663-8	4	36
45	Numerical solutions of the Ïndex in two and three dimensions. *Physics in Medicine and Biology*, **2012**, 57, 6981-97	3.8	30
44	Image registration using radial basis functions with adaptive radius. *Medical Physics*, **2012**, 39, 6542-9	4.4	5
43	Analytic regularization for landmark-based image registration. *Physics in Medicine and Biology*, **2012**, 57, 1477-98	3.8	19
42	Influence of imaging source and panel position uncertainties on the accuracy of 2D3D image registration of cranial images. *Medical Physics*, **2012**, 39, 5547-56	4.4	5
41	Analytic regularization of uniform cubic B-spline deformation fields. *Lecture Notes in Computer Science*, **2012**, 15, 122-9	0.9	6
40	Deformable Volumetric Registration Using B-Splines **2011**, 751-770		
39	Monte Carlo Simulation of Performance of a Time-Resolved Range Telescope Using Selected Image Quality Assurance Phantoms. *Nuclear Technology*, **2011**, 175, 58-62	1.4	
38	Evaluation of registration methods on thoracic CT: the EMPIRE10 challenge. *IEEE Transactions on Medical Imaging*, **2011**, 30, 1901-20	11.7	311
37	Four-dimensional lung treatment planning in layer-stacking carbon ion beam treatment: comparison of layer-stacking and conventional ungated/gated irradiation. *International Journal of Radiation Oncology Biology Physics*, **2011**, 80, 597-607	4	13

36	Evaluation of the dosimetric impact of interfractional anatomical variations on prostate proton therapy using daily in-room CT images. *Medical Physics*, **2011**, 38, 4623-33	4.4	29
35	Centerline extraction with principal curve tracing to improve 3D level set esophagus segmentation in CT images. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2011**, 2011, 3403-6	0.9	5
34	TU-G-BRB-04: Optimal Frequency of CT Imaging for Monitoring Target Volume and Estimating Delivered Dose in Standard and Hypofractionated Prostate Proton Therapy. *Medical Physics*, **2011**, 38, 3779-3779	4.4	
33	Evaluation and commissioning of a surface based system for respiratory sensing in 4D CT. *Journal of Applied Clinical Medical Physics*, **2010**, 12, 3288	2.3	18
32	Uncertainties in lung motion prediction relying on external surrogate: a 4DCT study in regular vs. irregular breathers. *Technology in Cancer Research and Treatment*, **2010**, 9, 307-16	2.7	9
31	Locally Deformable Shape Model to Improve 3D Level Set based Esophagus Segmentation **2010**, 3955-3958		5
30	3D level set esophagus segmentation in thoracic CT images using spatial, appearance and shape models **2010**,		1
29	Variations in tumor size and position due to irregular breathing in 4D-CT: a simulation study. *Medical Physics*, **2010**, 37, 1254-60	4.4	29
28	Comparison of respiratory-gated and respiratory-ungated planning in scattered carbon ion beam treatment of the pancreas using four-dimensional computed tomography. *International Journal of Radiation Oncology Biology Physics*, **2010**, 76, 303-12	4	24
27	In vivo proton beam range verification using spine MRI changes. *International Journal of Radiation Oncology Biology Physics*, **2010**, 78, 268-75	4	53
26	Dosimetric variation due to CT inter-slice spacing in four-dimensional carbon beam lung therapy. *Physics in Medicine and Biology*, **2009**, 54, 3231-46	3.8	1
25	A review of image-guided radiotherapy. *Radiological Physics and Technology*, **2009**, 2, 1-12	1.7	41
24	Experimental evaluation of a robust optimization method for IMRT of moving targets. *Physics in Medicine and Biology*, **2009**, 54, 2901-14	3.8	13
23	Four-dimensional measurement of intrafractional respiratory motion of pancreatic tumors using a 256 multi-slice CT scanner. *Radiotherapy and Oncology*, **2009**, 92, 231-7	5.3	70
22	Maximum-likelihood registration of range images with missing data. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2008**, 30, 120-30	13.3	8
21	Learning methods for lung tumor markerless gating in image-guided radiotherapy **2008**,		2
20	4D-CT lung motion estimation with deformable registration: quantification of motion nonlinearity and hysteresis. *Medical Physics*, **2008**, 35, 1008-18	4.4	106
19	Evaluation of deformable registration of patient lung 4DCT with subanatomical region segmentations. *Medical Physics*, **2008**, 35, 775-81	4.4	110

18	Tumor trailing strategy for intensity-modulated radiation therapy of moving targets. *Medical Physics*, **2008**, 35, 1718-33	4.4	28
17	A respiratory-gated treatment system for proton therapy. *Medical Physics*, **2007**, 34, 3273-8	4.4	40
16	Assessing residual motion for gated proton-beam radiotherapy. *Journal of Radiation Research*, **2007** , 48 Suppl A, A55-9	2.4	11
15	Statistical analysis and correlation discovery of tumor respiratory motion. *Physics in Medicine and Biology*, **2007**, 52, 4761-74	3.8	24
14	Multiple template-based fluoroscopic tracking of lung tumor mass without implanted fiducial markers. *Physics in Medicine and Biology*, **2007**, 52, 6229-42	3.8	77
13	Speed and amplitude of lung tumor motion precisely detected in four-dimensional setup and in real-time tumor-tracking radiotherapy. *International Journal of Radiation Oncology Biology Physics*, **2006**, 64, 1229-36	4	160
12	Towards fluoroscopic respiratory gating for lung tumours without radiopaque markers. *Physics in Medicine and Biology*, **2005**, 50, 4481-90	3.8	126
11	An Online Control Framework for Designing Self-Optimizing Computing Systems: Application to Power Management. *Lecture Notes in Computer Science*, **2005**, 174-188	0.9	1
10	The correlation between internal and external markers for abdominal tumors: implications for respiratory gating. *International Journal of Radiation Oncology Biology Physics*, **2005**, 61, 1551-8	4	179
9	An online predictive control framework for designing self-managing computing systems. *Multiagent and Grid Systems*, **2005**, 1, 63-72	0.5	1
8	Subsequence matching on structured time series data **2005**,		35
7	Anatomic feature-based registration for patient set-up in head and neck cancer radiotherapy. *Physics in Medicine and Biology*, **2005**, 50, 4667-79	3.8	15
6	A finite state model for respiratory motion analysis in image guided radiation therapy. *Physics in Medicine and Biology*, **2004**, 49, 5357-72	3.8	58
5	Tracking errors in a prototype real-time tumour tracking system. *Physics in Medicine and Biology*, **2004**, 49, 5347-56	3.8	32
4	Integrated radiotherapy imaging system (IRIS): design considerations of tumour tracking with linac gantry-mounted diagnostic x-ray systems with flat-panel detectors. *Physics in Medicine and Biology*, **2004**, 49, 243-55	3.8	156
3	Prediction of respiratory tumour motion for real-time image-guided radiotherapy. *Physics in Medicine and Biology*, **2004**, 49, 425-40	3.8	296
2	Multiview registration of 3D scenes by minimizing error between coordinate frames. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2004**, 26, 1037-50	13.3	83
1	Multiview Registration of 3D Scenes by Minimizing Error between Coordinate Frames. *Lecture Notes in Computer Science*, **2002**, 587-597	0.9	7