Gregory C Sharp

List of Publications by Year
in descending order

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111 papers	4,737 citations	117625 34 h-index	102487 66 g-index
114 all docs	114 docs citations	114 times ranked	4738 citing authors

#	Article	IF	Citations
1	Evaluation of Registration Methods on Thoracic CT: The EMPIRE10 Challenge. IEEE Transactions on Medical Imaging, 2011, 30, 1901-1920.	8.9	363
2	Prediction of respiratory tumour motion for real-time image-guided radiotherapy. Physics in Medicine and Biology, 2004, 49, 425-440.	3.0	349
3	Vision 20/20: Perspectives on automated image segmentation for radiotherapy. Medical Physics, 2014, 41, 050902.	3.0	262
4	The correlation between internal and external markers for abdominal tumors: Implications for respiratory gating. International Journal of Radiation Oncology Biology Physics, 2005, 61, 1551-1558.	0.8	205
5	Evaluation of segmentation methods on head and neck <scp>CT</scp>: Autoâ€segmentation challenge 2015. Medical Physics, 2017, 44, 2020-2036.	3.0	198
6	Why rankings of biomedical image analysis competitions should be interpreted with care. Nature Communications, 2018, 9, 5217.	12.8	198
7	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, 1229-1236.	0.8	183
8	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, 243-255.	3.0	171
9	Autosegmentation for thoracic radiation treatment planning: A grand challenge at AAPM 2017. Medical Physics, 2018, 45, 4568-4581.	3.0	169
10	Towards fluoroscopic respiratory gating for lung tumours without radiopaque markers. Physics in Medicine and Biology, 2005, 50, 4481-4490.	3.0	141
11	Evaluation of deformable registration of patient lung 4DCT with subanatomical region segmentations. Medical Physics, 2008, 35, 775-781.	3.0	125
12	4Dâ€CT lung motion estimation with deformable registration: Quantification of motion nonlinearity and hysteresis. Medical Physics, 2008, 35, 1008-1018.	3.0	122
13	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.	3.0	109
14	Proton dose calculation on scatterâ€corrected CBCT image: Feasibility study for adaptive proton therapy. Medical Physics, 2015, 42, 4449-4459.	3.0	107
15	Multiview registration of 3D scenes by minimizing error between coordinate frames. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2004, 26, 1037-1050.	13.9	103
16	Investigating deformable image registration and scatter correction for CBCTâ€based dose calculation in adaptive IMPT. Medical Physics, 2016, 43, 5635-5646.	3.0	92
17	Multiple template-based fluoroscopic tracking of lung tumor mass without implanted fiducial markers. Physics in Medicine and Biology, 2007, 52, 6229-6242.	3.0	88
18	Four-dimensional measurement of intrafractional respiratory motion of pancreatic tumors using a 256 multi-slice CT scanner. Radiotherapy and Oncology, 2009, 92, 231-237.	0.6	83

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19	A finite state model for respiratory motion analysis in image guided radiation therapy. Physics in Medicine and Biology, 2004, 49, 5357-5372.	3.0	77
20	Experimental validation of two dualâ€energy CT methods for proton therapy using heterogeneous tissue samples. Medical Physics, 2018, 45, 48-59.	3.0	61
21	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, 287-299.	3.0	60
22	In Vivo Proton Beam Range Verification Using Spine MRI Changes. International Journal of Radiation Oncology Biology Physics, 2010, 78, 268-275.	0.8	59
23	A Four-Dimensional Computed Tomography Analysis of Multiorgan Abdominal Motion. International Journal of Radiation Oncology Biology Physics, 2012, 83, 435-441.	0.8	56
24	Deep Neural Networks for Fast Segmentation of 3D Medical Images. Lecture Notes in Computer Science, 2016, , 158-165.	1.3	55
25	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-e668.	0.8	50
26	A respiratoryâ€gated treatment system for proton therapy. Medical Physics, 2007, 34, 3273-3278.	3.0	49
27	A review of image-guided radiotherapy. Radiological Physics and Technology, 2009, 2, 1-12.	1.9	48
28	Technical Note: <scp>plastimatch mabs</scp>, an open source tool for automatic image segmentation. Medical Physics, 2016, 43, 5155-5160.	3.0	48
29	Subsequence matching on structured time series data. , 2005, , .		45
30	Evaluation of CBCT scatter correction using deep convolutional neural networks for head and neck adaptive proton therapy. Physics in Medicine and Biology, 2020, 65, 245022.	3.0	44
31	Evaluation of the dosimetric impact of interfractional anatomical variations on prostate proton therapy using daily inâ€room CT images. Medical Physics, 2011, 38, 4623-4633.	3.0	43
32	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.	2.8	42
33	Numerical solutions of the Î³-index in two and three dimensions. Physics in Medicine and Biology, 2012, 57, 6981-6997.	3.0	40
34	Adaptive proton therapy. Physics in Medicine and Biology, 2021, 66, 22TR01.	3.0	40
35	Tracking errors in a prototype real-time tumour tracking system. Physics in Medicine and Biology, 2004, 49, 5347-5356.	3.0	36
36	Variations in tumor size and position due to irregular breathing in 4Dâ€CT: A simulation study. Medical Physics, 2010, 37, 1254-1260.	3.0	34

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37	Statistical analysis and correlation discovery of tumor respiratory motion. Physics in Medicine and Biology, 2007, 52, 4761-4774.	3.0	32
38	The distance discordance metricâ€"a novel approach to quantifying spatial uncertainties in intra- and inter-patient deformable image registration. Physics in Medicine and Biology, 2014, 59, 733-746.	3.0	30
39	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, 803-810.	0.8	30
40	Fast automatic 3D liver segmentation based on a three-level AdaBoost-guided active shape model. Medical Physics, 2016, 43, 2421-2434.	3.0	30
41	Anatomic changes in head and neck intensity-modulated proton therapy: Comparison between robust optimization and online adaptation. Radiotherapy and Oncology, 2021, 159, 39-47.	0.6	30
42	Tumor trailing strategy for intensityâ€modulated radiation therapy of moving targets. Medical Physics, 2008, 35, 1718-1733.	3.0	29
43	Comparison of weekly and daily online adaptation for head and neck intensity-modulated proton therapy. Physics in Medicine and Biology, 2021, 66, 055023.	3.0	28
44	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, 303-312.	0.8	27
45	Evaluation and commissioning of a surface based system for respiratory sensing in 4D CT. Journal of Applied Clinical Medical Physics, 2011, 12, 162-169.	1.9	24
46	Analytic regularization for landmark-based image registration. Physics in Medicine and Biology, 2012, 57, 1477-1498.	3.0	22
47	Correlation of 18F-FDG Avid Volumes on Preâ€"Radiation Therapy and Postâ€"Radiation Therapy FDG PET Scans inÂRecurrent Lung Cancer. International Journal of Radiation Oncology Biology Physics, 2014, 89, 137-144.	0.8	22
48	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.	0.8	22
49	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.	3.0	22
50	Proton range shift analysis on brain pseudo-CT generated from T1 and T2 MR. Acta OncolÃ³gica, 2018, 57, 1521-1531.	1.8	22
51	A Stochastic Approach to Diffeomorphic Point Set Registration with Landmark Constraints. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2016, 38, 238-251.	13.9	18
52	Differential inflammatory response dynamics in normal lung following stereotactic body radiation therapy with protons versus photons. Radiotherapy and Oncology, 2019, 136, 169-175.	0.6	18
53	Anatomic feature-based registration for patient set-up in head and neck cancer radiotherapy. Physics in Medicine and Biology, 2005, 50, 4667-4679.	3.0	17
54	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.	3.0	16

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55	Experimental evaluation of a robust optimization method for IMRT of moving targets. Physics in Medicine and Biology, 2009, 54, 2901-2914.	3.0	14
56	Improvement of single detector proton radiography by incorporating intensity of time-resolved dose rate functions. Physics in Medicine and Biology, 2018, 63, 015030.	3.0	14
57	Density overwrites of internal tumor volumes in intensity modulated proton therapy plans for mobile lung tumors. Physics in Medicine and Biology, 2018, 63, 035023.	3.0	14
58	Contour-Driven Regression for Label Inference in Atlas-Based Segmentation. Lecture Notes in Computer Science, 2013, 16, 211-218.	1.3	14
59	Assessing Residual Motion for Gated Proton-Beam Radiotherapy. Journal of Radiation Research, 2007, 48, A55-A59.	1.6	13
60	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.	0.8	13
61	2D/4D marker-free tumor tracking using 4D CBCT as the reference image. Physics in Medicine and Biology, 2014, 59, 2219-2233.	3.0	13
62	Impact of aeration change and beam arrangement on the robustness of proton plans. Journal of Applied Clinical Medical Physics, 2019, 20, 14-21.	1.9	13
63	Maximum-Likelihood Registration of Range Images with Missing Data. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2008, 30, 120-130.	13.9	10
64	How to Exploit Weaknesses in Biomedical Challenge Design and Organization. Lecture Notes in Computer Science, 2018, , 388-395.	1.3	10
65	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.	0.7	10
66	Multiview Registration of 3D Scenes by Minimizing Error between Coordinate Frames. Lecture Notes in Computer Science, 2002, , 587-597.	1.3	10
67	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, 307-315.	1.9	9
68	Validation of a model for physical dose variations in irregularly moving targets treated with carbon ion beams. Medical Physics, 2019, 46, 3663-3673.	3.0	9
69	Evaluation of an a priori 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.	2.9	9
70	Impact of interfractional motion on hypofractionated pencil beam scanning proton therapy and <scp>VMAT</scp> delivery for prostate cancer. Medical Physics, 2018, 45, 4011-4019.	3.0	8
71	Centerline extraction with principal curve tracing to improve 3D level set esophagus segmentation in CT images. , 2011, 2011, 3403-6.		7
72	Computing proton dose to irregularly moving targets. Physics in Medicine and Biology, 2014, 59, 4261-4273.	3.0	7

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73	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.	1.9	7
74	Iterative optimization of relative stopping power by single detector based multi-projection proton radiography. Physics in Medicine and Biology, 2019, 64, 065022.	3.0	7
75	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.	3.0	7
76	Modeling RBEâ€weighted dose variations in irregularly moving abdominal targets treated with carbon ion beams. Medical Physics, 2020, 47, 2768-2778.	3.0	7
77	Analytic Regularization of Uniform Cubic B-spline Deformation Fields. Lecture Notes in Computer Science, 2012, 15, 122-129.	1.3	7
78	An Online Control Framework for Designing Self-Optimizing Computing Systems: Application to Power Management. Lecture Notes in Computer Science, 2005, , 174-188.	1.3	6
79	Locally Deformable Shape Model to Improve 3D Level Set Based Esophagus Segmentation. , 2010, , 3955-3958.		6
80	Robust fluoroscopic tracking of fiducial markers: exploiting the spatial constraints. Physics in Medicine and Biology, 2013, 58, 1789-1808.	3.0	6
81	Hypofractionated proton therapy for prostate cancer: Dose delivery uncertainty due to interfractional motion. Medical Physics, 2013, 40, 071714.	3.0	6
82	Investigation of cone-beam CT image quality trade-off for image-guided radiation therapy. Physics in Medicine and Biology, 2016, 61, 3317-3346.	3.0	6
83	Investigation of real tissue water equivalent path lengths using an efficient dose extinction method. Physics in Medicine and Biology, 2017, 62, 5640-5651.	3.0	6
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.	0.8	6
85	Physics of Particle Beam and Hypofractionated Beam Delivery in NSCLC. Seminars in Radiation Oncology, 2021, 31, 162-169.	2.2	6
86	Utility of Noncancerous Chest CT Features for Predicting Overall Survival and Noncancer Death in Patients With Stage I Lung Cancer Treated With Stereotactic Body Radiotherapy. American Journal of Roentgenology, 2022, 219, 579-589.	2.2	6
87	Image registration using radial basis functions with adaptive radius. Medical Physics, 2012, 39, 6542-6549.	3.0	5
88	Influence of imaging source and panel position uncertainties on the accuracy of 2D/3D image registration of cranial images. Medical Physics, 2012, 39, 5547-5556.	3.0	5
89	A multiple-image-based method to evaluate the performance of deformable image registration in the pelvis. Physics in Medicine and Biology, 2016, 61, 6172-6180.	3.0	4
90	Clinical evaluation of a novel transmission detector for 3D quality assurance of IMRT and SBRT. Biomedical Physics and Engineering Express, 2017, 3, 055010.	1.2	4

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91	Technical Note: A novel dosimeter improves total skin electron therapy surface dosimetry workflow. Journal of Applied Clinical Medical Physics, 2020, 21, 158-162.	1.9	4
92	An online predictive control framework for designing self-managing computing systems. Multiagent and Grid Systems, 2005, 1, 63-72.	0.9	3
93	Plastimatchâ€”An Open-Source Software for Radiotherapy Imaging. , 2013, , 107-114.		3
94	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, 387-395.	1.9	3
95	Kilovoltage projection streaming-based tracking application (KiPSTA): First clinical implementation during spine stereotactic radiation surgery. Advances in Radiation Oncology, 2018, 3, 682-692.	1.2	3
96	Technical Note: Cumulative dose modeling for organ motion management in MRIâ€guided radiation therapy. Medical Physics, 2021, 48, 597-604.	3.0	3
97	Image-based illumination for electronic display of artistic paintings. , 2002, , .		2
98	Learning methods for lung tumor markerless gating in image-guided radiotherapy. , 2008, , .		2
99	Subject-specific brain tumor growth modelling via an efficient Bayesian inference framework. , 2018, 10574, .		2
100	Dosimetric variation due to CT inter-slice spacing in four-dimensional carbon beam lung therapy. Physics in Medicine and Biology, 2009, 54, 3231-3246.	3.0	1
101	3D level set esophagus segmentation in thoracic CT images using spatial, appearance and shape models. , 2010, , .		1
102	In Reply to Saraiya etÂal. International Journal of Radiation Oncology Biology Physics, 2014, 90, 969-970.	0.8	1
103	Intra-fraction motion prediction in MRI-guided radiation therapy using Markov processes. Physics in Medicine and Biology, 2019, 64, 195006.	3.0	1
104	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.	2.2	1
105	Deformable Volumetric Registration Using B-Splines. , 2011, , 751-770.		0
106	Monte Carlo Simulation of Performance of a Time-Resolved Range Telescope Using Selected Image Quality Assurance Phantoms. Nuclear Technology, 2011, 175, 58-62.	1.2	0
107	Deformable Registration Using Optical-Flow Methods. , 2013, , 95-106.		0
108	Preliminary investigation of CBCT imaging optimization for Image-guided radiation therapy. , 2014, , .		0

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109	A generalized framework for analytic regularization of uniform cubic B-spline displacement fields. Biomedical Physics and Engineering Express, 2021, 7, 045011.	1.2	0
110	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.	3.0	0
111	SUâ€Dâ€207â€05: Realâ€Time Intrafractional Motion Tracking During VMAT Delivery Using a Conventional Elekta CBCT System. Medical Physics, 2015, 42, 3219-3219.	3.0	0