Jan Unkelbach

List of Publications by Year
in descending order

74 papers	2,786 citations	201385 27 h-index	189595 50 g-index
77 all docs	77 docs citations	77 times ranked	2643 citing authors

#	Article	IF	Citations
1	Accounting for range uncertainties in the optimization of intensity modulated proton therapy. Physics in Medicine and Biology, 2007, 52, 2755-2773.	1.6	373
2	Reducing the sensitivity of IMPT treatment plans to setup errors and range uncertainties via probabilistic treatment planning. Medical Physics, 2009, 36, 149-163.	1.6	259
3	Robust radiotherapy planning. Physics in Medicine and Biology, 2018, 63, 22TR02.	1.6	156
4	Including robustness in multi-criteria optimization for intensity-modulated proton therapy. Physics in Medicine and Biology, 2012, 57, 591-608.	1.6	152
5	Reoptimization of Intensity Modulated Proton Therapy Plans Based on Linear Energy Transfer. International Journal of Radiation Oncology Biology Physics, 2016, 96, 1097-1106.	0.4	140
6	Comparison of PET and CT radiomics for prediction of local tumor control in head and neck squamous cell carcinoma. Acta OncolÃ³gica, 2017, 56, 1531-1536.	0.8	123
7	Robust Proton Treatment Planning: Physical and Biological Optimization. Seminars in Radiation Oncology, 2018, 28, 88-96.	1.0	90
8	Post-radiochemotherapy PET radiomics in head and neck cancer â€“ The influence of radiomics implementation on the reproducibility of local control tumor models. Radiotherapy and Oncology, 2017, 125, 385-391.	0.3	89
9	Radiotherapy Treatment plannINg study Guidelines (RATING): A framework for setting up and reporting on scientific treatment planning studies. Radiotherapy and Oncology, 2020, 153, 67-78.	0.3	77
10	Shared data for intensity modulated radiation therapy (IMRT) optimization research: the CORT dataset. GigaScience, 2014, 3, 37.	3.3	68
11	Roadmap: proton therapy physics and biology. Physics in Medicine and Biology, 2021, 66, 05RM01.	1.6	67
12	Optimization approaches to volumetric modulated arc therapy planning. Medical Physics, 2015, 42, 1367-1377.	1.6	56
13	Radiotherapy planning for glioblastoma based on a tumor growth model: improving target volume delineation. Physics in Medicine and Biology, 2014, 59, 747-770.	1.6	55
14	Visualization of a variety of possible dosimetric outcomes in radiation therapy using dose-volume histogram bands. Practical Radiation Oncology, 2012, 2, 164-171.	1.1	50
15	Online correction for respiratory motion: evaluation of two different imaging geometries. Physics in Medicine and Biology, 2005, 50, 4087-4096.	1.6	49
16	The dependence of optimal fractionation schemes on the spatial dose distribution. Physics in Medicine and Biology, 2013, 58, 159-167.	1.6	46
17	Privacy-preserving distributed learning of radiomics to predict overall survival and HPV status in head and neck cancer. Scientific Reports, 2020, 10, 4542.	1.6	46
18	Direct leaf trajectory optimization for volumetric modulated arc therapy planning with sliding window delivery. Medical Physics, 2013, 41, 011701.	1.6	41

#	Article	IF	Citations
19	Incorporating organ movements in IMRT treatment planning for prostate cancer: Minimizing uncertainties in the inverse planning process. Medical Physics, 2005, 32, 2471-2483.	1.6	38
20	Personalized Radiotherapy Planning Based on a Computational Tumor Growth Model. IEEE Transactions on Medical Imaging, 2017, 36, 815-825.	5.4	37
21	A modular approach to intensity-modulated arc therapy optimization with noncoplanar trajectories. Physics in Medicine and Biology, 2015, 60, 5179-5198.	1.6	36
22	Incorporating uncertainties in respiratory motion into 4D treatment plan optimization. Medical Physics, 2009, 36, 3059-3071.	1.6	35
23	The role of computational methods for automating and improving clinical target volume definition. Radiotherapy and Oncology, 2020, 153, 15-25.	0.3	31
24	Radiotherapy planning for glioblastoma based on a tumor growth model: implications for spatial dose redistribution. Physics in Medicine and Biology, 2014, 59, 771-789.	1.6	30
25	Volumetric relationship between 2-hydroxyglutarate and FLAIR hyperintensity has potential implications for radiotherapy planning of mutant<i>IDH</i>glioma patients. Neuro-Oncology, 2016, 18, now100.	0.6	30
26	Benefit of replanning in MR-guided online adaptive radiation therapy in the treatment of liver metastasis. Radiation Oncology, 2021, 16, 84.	1.2	29
27	Degradation of proton depth dose distributions attributable to microstructures in lungâ€equivalent material. Medical Physics, 2015, 42, 6425-6432.	1.6	27
28	A column-generation-based method for multi-criteria direct aperture optimization. Physics in Medicine and Biology, 2013, 58, 621-639.	1.6	26
29	Simultaneous optimization of dose distributions and fractionation schemes in particle radiotherapy. Medical Physics, 2013, 40, 091702.	1.6	26
30	MRI Based Bayesian Personalization of a Tumor Growth Model. IEEE Transactions on Medical Imaging, 2016, 35, 2329-2339.	5.4	26
31	Optimization of combined protonâ€"photon treatments. Radiotherapy and Oncology, 2018, 128, 133-138.	0.3	26
32	Optimization of Radiation Therapy Fractionation Schedules in the Presence of Tumor Repopulation. INFORMS Journal on Computing, 2015, 27, 788-803.	1.0	25
33	The emergence of nonuniform spatiotemporal fractionation schemes within the standard BED model. Medical Physics, 2015, 42, 2234-2241.	1.6	24
34	Sampling image segmentations for uncertainty quantification. Medical Image Analysis, 2016, 34, 42-51.	7.0	24
35	Comparison of robust to standardized CT radiomics models to predict overall survival for nonâ€small cell lung cancer patients. Medical Physics, 2020, 47, 4045-4053.	1.6	23
36	Interchangeability of radiomic features between [18F]â€<scp>FDG PET</scp>/<scp>CT</scp> and [18F]â€<scp>FDG PET</scp>/<scp>MR</scp>. Medical Physics, 2019, 46, 1677-1685.	1.6	22

#	Article	IF	Citations
37	ELPHA: Dynamically deformable liver phantom for realâ€time motionâ€adaptive radiotherapy treatments. Medical Physics, 2019, 46, 839-850.	1.6	21
38	Optimizing highly noncoplanar VMAT trajectories: the NoVo method. Physics in Medicine and Biology, 2018, 63, 025023.	1.6	19
39	Combined protonâ€"photon treatments â€" A new approach to proton therapy without a gantry. Radiotherapy and Oncology, 2020, 145, 81-87.	0.3	19
40	Spatiotemporal Fractionation Schemes for Irradiating Large Cerebral Arteriovenous Malformations. International Journal of Radiation Oncology Biology Physics, 2016, 95, 1067-1074.	0.4	17
41	Radiomics Feature Activation Maps as a New Tool for Signature Interpretability. Frontiers in Oncology, 2020, 10, 578895.	1.3	17
42	Spatiotemporal fractionation schemes for liver stereotactic body radiotherapy. Radiotherapy and Oncology, 2017, 125, 357-364.	0.3	15
43	Fully automatic classification of automated breast ultrasound (ABUS) imaging according to BI-RADS using a deep convolutional neural network. European Radiology, 2022, 32, 4868-4878.	2.3	15
44	Accelerated iterative beam angle selection in IMRT. Medical Physics, 2016, 43, 1073-1082.	1.6	14
45	Optimization of spatiotemporally fractionated radiotherapy treatments with bounds on the achievable benefit. Physics in Medicine and Biology, 2018, 63, 015036.	1.6	14
46	An approach for estimating dosimetric uncertainties in deformable dose accumulation in pencil beam scanning proton therapy for lung cancer. Physics in Medicine and Biology, 2021, 66, .	1.6	14
47	The role of medical physicists and the AAPM in the development of treatment planning and optimization. Medical Physics, 2008, 35, 4911-4923.	1.6	12
48	From analytic inversion to contemporary IMRT optimization: Radiation therapy planning revisited from a mathematical perspective. Physica Medica, 2012, 28, 109-118.	0.4	12
49	Plan averaging for multicriteria navigation of sliding window IMRT and VMAT. Medical Physics, 2014, 41, 021709.	1.6	12
50	Optimal Allocation of Proton Therapy Slots in Combined Proton-Photon Radiation Therapy. International Journal of Radiation Oncology Biology Physics, 2021, 111, 196-207.	0.4	10
51	A Bayesian network model of lymphatic tumor progression for personalized elective CTV definition in head and neck cancers. Physics in Medicine and Biology, 2019, 64, 165003.	1.6	9
52	Bayesian Personalization of Brain Tumor Growth Model. Lecture Notes in Computer Science, 2015, , 424-432.	1.0	9
53	Exploiting tumor shrinkage through temporal optimization of radiotherapy. Physics in Medicine and Biology, 2014, 59, 3059-3079.	1.6	8
54	A hidden Markov model for lymphatic tumor progression in the head and neck. Scientific Reports, 2021, 11, 12261.	1.6	8

#	Article	IF	Citations
55	Robust spatiotemporal fractionation schemes in the presence of patient setup uncertainty. Medical Physics, 2019, 46, 2988-3000.	1.6	7
56	Accounting for Range Uncertainties in the Optimization of Combined Proton-Photon Treatments Via Stochastic Optimization. International Journal of Radiation Oncology Biology Physics, 2020, 108, 792-801.	0.4	7
57	Combined protonâ€“photon therapy for nonâ€small cell lung cancer. Medical Physics, 2022, 49, 5374-5386.	1.6	7
58	A mathematical programming approach to the fractionation problem in chemoradiotherapy. IIE Transactions on Healthcare Systems Engineering, 2015, 5, 55-73.	0.8	6
59	Dosimetric comparison of protons vs photons in re-irradiation of intracranial meningioma. British Journal of Radiology, 2019, 92, 20190113.	1.0	6
60	Joint Optimization of Photonâ€“Carbon Ion Treatments for Glioblastoma. International Journal of Radiation Oncology Biology Physics, 2021, 111, 559-572.	0.4	6
61	GPSSI: Gaussian Process for Sampling Segmentations of Images. Lecture Notes in Computer Science, 2015, , 38-46.	1.0	6
62	Combined protonâ€“photon treatment for breast cancer. Physics in Medicine and Biology, 2021, 66, 235002.	1.6	6
63	Radiation-induced lymphopenia does not impact treatment efficacy in a mouse tumor model. Neoplasia, 2022, 31, 100812.	2.3	6
64	Detailed patient-individual reporting of lymph node involvement in oropharyngeal squamous cell carcinoma with an online interface. Radiotherapy and Oncology, 2022, 169, 1-7.	0.3	5
65	Derivation of mean dose tolerances for new fractionation schemes and treatment modalities. Physics in Medicine and Biology, 2018, 63, 035038.	1.6	4
66	An EM Based Training Algorithm for Recurrent Neural Networks. Lecture Notes in Computer Science, 2009, , 964-974.	1.0	4
67	Mathematical Optimization of Treatment Schedules. International Journal of Radiation Oncology Biology Physics, 2016, 96, 6-8.	0.4	3
68	Joint Optimization of Radiotherapy Treatments Involving Multiple Radiation Modalities. IEEE Transactions on Radiation and Plasma Medical Sciences, 2022, 6, 294-303.	2.7	3
69	Robust doseâ€paintingâ€byâ€numbers vs. nonselective dose escalation for nonâ€small cell lung cancer patients. Medical Physics, 2021, 48, 3096-3108.	1.6	3
70	Quantification of theÂspatial distribution of primary tumors in the lung to develop new prognostic biomarkers for locally advanced NSCLC. Scientific Reports, 2021, 11, 20890.	1.6	3
71	Probing spatiotemporal fractionation on the preclinical level. Physics in Medicine and Biology, 2020, 65, 22NT02.	1.6	3
72	Use of Diffusion Tensor Images in Glioma Growth Modeling for Radiotherapy Target Delineation. Lecture Notes in Computer Science, 2013, , 63-73.	1.0	2

#	Article	IF	Citations
73	Response to the Letter to the Editor â€œApplication of the RATING score: In regards to Hansen et al.â€• Radiotherapy and Oncology, 2021, 158, 311.	0.3	1
74	Treatment-Planning Optimization. Series in Medical Physics and Biomedical Engineering, 2011, , 461-488.	0.1	1