Christoph Bert

List of Publications by Citations

137 papers	2,813 citations	26 h-index	49 g-index
174 ext. papers	3,234 ext. citations	3.1 avg, IF	5.22 L-index

#	Paper	IF	Citations
137	Motion in radiotherapy: particle therapy. *Physics in Medicine and Biology*, **2011**, 56, R113-44	3.8	255
136	Quantification of interplay effects of scanned particle beams and moving targets. *Physics in Medicine and Biology*, **2008**, 53, 2253-65	3.8	185
135	A phantom evaluation of a stereo-vision surface imaging system for radiotherapy patient setup. *Medical Physics*, **2005**, 32, 2753-62	4.4	150
134	Clinical experience with a 3D surface patient setup system for alignment of partial-breast irradiation patients. *International Journal of Radiation Oncology Biology Physics*, **2006**, 64, 1265-74	4	149
133	Respiratory motion management in particle therapy. *Medical Physics*, **2010**, 37, 449-60	4.4	106
132	Target motion tracking with a scanned particle beam. *Medical Physics*, **2007**, 34, 4768-71	4.4	100
131	4D treatment planning for scanned ion beams. *Radiation Oncology*, **2007**, 2, 24	4.2	89
130	Gated irradiation with scanned particle beams. *International Journal of Radiation Oncology Biology Physics*, **2009**, 73, 1270-5	4	68
129	Hypofractionated Irradiation Has Immune Stimulatory Potential and Induces a Timely Restricted Infiltration of Immune Cells in Colon Cancer Tumors. *Frontiers in Immunology*, **2017**, 8, 231	8.4	67
128	Feasibility Study on Cardiac Arrhythmia Ablation Using High-Energy Heavy Ion Beams. *Scientific Reports*, **2016**, 6, 38895	4.9	67
127	Motion mitigation in intensity modulated particle therapy by internal target volumes covering range changes. *Medical Physics*, **2012**, 39, 6004-13	4.4	66
126	Speed and accuracy of a beam tracking system for treatment of moving targets with scanned ion beams. *Physics in Medicine and Biology*, **2009**, 54, 4849-62	3.8	64
125	Quality assurance guidelines for superficial hyperthermia clinical trials: I. Clinical requirements. *International Journal of Hyperthermia*, **2017**, 33, 471-482	3.7	59
124	Simulations to design an online motion compensation system for scanned particle beams. *Physics in Medicine and Biology*, **2006**, 51, 3517-31	3.8	59
123	Motion compensation with a scanned ion beam: a technical feasibility study. *Radiation Oncology*, **2008**, 3, 34	4.2	57
122	Upgrade and benchmarking of a 4D treatment planning system for scanned ion beam therapy. *Medical Physics*, **2013**, 40, 051722	4.4	48
121	Particle therapy for noncancer diseases. *Medical Physics*, **2012**, 39, 1716-27	4.4	43

120	Four-dimensional patient dose reconstruction for scanned ion beam therapy of moving liver tumors. *International Journal of Radiation Oncology Biology Physics*, **2014**, 89, 175-81	4	37
119	A breathing thorax phantom with independently programmable 6D tumour motion for dosimetric measurements in radiation therapy. *Physics in Medicine and Biology*, **2012**, 57, 2235-50	3.8	36
118	A 4D-optimization concept for scanned ion beam therapy. *Radiotherapy and Oncology*, **2013**, 109, 419-24	5.3	35
117	Atrioventricular node ablation in Langendorff-perfused porcine hearts using carbon ion particle therapy: methods and an in vivo feasibility investigation for catheter-free ablation of cardiac arrhythmias. *Circulation: Arrhythmia and Electrophysiology*, **2015**, 8, 429-38	6.4	33
116	Required transition from research to clinical application: Report on the 4D treatment planning workshops 2014 and 2015. *Physica Medica*, **2016**, 32, 874-82	2.7	32
115	Dosimetric precision of an ion beam tracking system. *Radiation Oncology*, **2010**, 5, 61	4.2	30
114	Challenges of radiotherapy: report on the 4D treatment planning workshop 2013. *Physica Medica*, **2014**, 30, 809-15	2.7	29
113	Experimental verification of a real-time compensation functionality for dose changes due to target motion in scanned particle therapy. *Medical Physics*, **2011**, 38, 5448-58	4.4	28
112	DEGRO practical guidelines for radiotherapy of non-malignant disorders: Part I: physical principles, radiobiological mechanisms, and radiogenic risk. *Strahlentherapie Und Onkologie*, **2015**, 191, 701-9	4.3	26
111	Ultrasound tracking for intra-fractional motion compensation in radiation therapy. *Physica Medica*, **2014**, 30, 578-82	2.7	26
110	Residual motion mitigation in scanned carbon ion beam therapy of liver tumors using enlarged pencil beam overlap. *Radiotherapy and Oncology*, **2014**, 113, 290-5	5.3	26
109	Ion beam tracking using ultrasound motion detection. *Medical Physics*, **2014**, 41, 041708	4.4	26
108	4D optimization of scanned ion beam tracking therapy for moving tumors. *Physics in Medicine and Biology*, **2014**, 59, 3431-52	3.8	26
107	4D in-beam positron emission tomography for verification of motion-compensated ion beam therapy. *Medical Physics*, **2009**, 36, 4230-43	4.4	26
106	Recent advanced in Surface Guided Radiation Therapy. *Radiation Oncology*, **2020**, 15, 187	4.2	23
105	Treatment Planning Studies in Patient Data With Scanned Carbon Ion Beams for Catheter-Free Ablation of Atrial Fibrillation. *Journal of Cardiovascular Electrophysiology*, **2016**, 27, 335-44	2.7	23
104	Clinical implementations of 4D pencil beam scanned particle therapy: Report on the 4D treatment planning workshop 2016 and 2017. *Physica Medica*, **2018**, 54, 121-130	2.7	22
103	Electromagnetic tracking (EMT) technology for improved treatment quality assurance in interstitial brachytherapy. *Journal of Applied Clinical Medical Physics*, **2017**, 18, 211-222	2.3	22

102	Electromagnetic tracking for treatment verification in interstitial brachytherapy. *Journal of Contemporary Brachytherapy*, **2016**, 8, 448-453	1.9	21
101	Magnetic resonance imaging for brain stereotactic radiotherapy : A review of requirements and pitfalls. *Strahlentherapie Und Onkologie*, **2020**, 196, 444-456	4.3	19
100	Automation of radiation treatment planning : Evaluation of head and neck cancer patient plans created by the Pinnacle scripting and Auto-Planning functions. *Strahlentherapie Und Onkologie*, **2017**, 193, 656-665	4.3	19
99	Multigating, a 4D optimized beam tracking in scanned ion beam therapy. *Technology in Cancer Research and Treatment*, **2014**, 13, 497-504	2.7	18
98	Tumor tracking based on correlation models in scanned ion beam therapy: an experimental study. *Physics in Medicine and Biology*, **2013**, 58, 4659-78	3.8	17
97	Computed tomography using the Medipix1 chip. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2003**, 509, 240-250	1.2	17
96	Robustness of target dose coverage to motion uncertainties for scanned carbon ion beam tracking therapy of moving tumors. *Physics in Medicine and Biology*, **2015**, 60, 1717-40	3.8	16
95	Experimental verification of a 4D MLEM reconstruction algorithm used for in-beam PET measurements in particle therapy. *Physics in Medicine and Biology*, **2013**, 58, 5085-111	3.8	16
94	Accumulation of the delivered treatment dose in volumetric modulated arc therapy with breath-hold for pancreatic cancer patients based on daily cone beam computed tomography images with limited field-of-view. *Medical Physics*, **2019**, 46, 2969-2977	4.4	14
93	Novel technique for high-precision stereotactic irradiation of mouse brains. *Strahlentherapie Und Onkologie*, **2016**, 192, 806-814	4.3	14
92	Noninvasive cardiac arrhythmia ablation with particle beams. *Medical Physics*, **2018**, 45, e1024-e1035	4.4	14
91	Preclinical investigations towards the first spacer gel application in prostate cancer treatment during particle therapy at HIT. *Radiation Oncology*, **2013**, 8, 134	4.2	13
90	Ion therapy of prostate cancer: daily rectal dose reduction by application of spacer gel. *Radiation Oncology*, **2015**, 10, 56	4.2	12
89	Assessment of uncertainties in treatment planning for scanned ion beam therapy of moving tumors. *International Journal of Radiation Oncology Biology Physics*, **2013**, 85, 528-35	4	12
88	ECG-based 4D-dose reconstruction of cardiac arrhythmia ablation with carbon ion beams: application in a porcine model. *Physics in Medicine and Biology*, **2017**, 62, 6869-6883	3.8	12
87	Commissioning of an integrated platform for time-resolved treatment delivery in scanned ion beam therapy by means of optical motion monitoring. *Technology in Cancer Research and Treatment* , **2014**, 13, 517-28	2.7	12
86	Effect of VERO pan-tilt motion on the dose distribution. *Journal of Applied Clinical Medical Physics*, **2017**, 18, 144-154	2.3	11
85	Examination of a deformable motion model for respiratory movements and 4D dose calculations using different driving surrogates. *Medical Physics*, **2017**, 44, 2066-2076	4.4	11

84	Particle radiosurgery: a new frontier of physics in medicine. *Physica Medica*, **2014**, 30, 535-8	2.7	11
83	Implementation of an analytical model for leakage neutron equivalent dose in a proton radiotherapy planning system. *Cancers*, **2015**, 7, 427-38	6.6	11
82	Advances in 4D treatment planning for scanned particle beam therapy - report of dedicated workshops. *Technology in Cancer Research and Treatment*, **2014**, 13, 485-95	2.7	11
81	Scanned carbon beam irradiation of moving films: comparison of measured and calculated response. *Radiation Oncology*, **2012**, 7, 55	4.2	11
80	Gating delays for two respiratory motion sensors in scanned particle radiation therapy. *Physics in Medicine and Biology*, **2013**, 58, N295-302	3.8	11
79	4D particle therapy PET simulation for moving targets irradiated with scanned ion beams. *Physics in Medicine and Biology*, **2013**, 58, 513-33	3.8	11
78	Ion-optical studies for a range adaptation method in ion beam therapy using a static wedge degrader combined with magnetic beam deflection. *Physics in Medicine and Biology*, **2010**, 55, 3499-513	3.8	11
77	Calculation and experimental verification of the RBE-weighted dose for scanned ion beams in the presence of target motion. *Physics in Medicine and Biology*, **2011**, 56, 7337-51	3.8	11
76	Real-Time Respiratory Motion Analysis Using 4-D Shape Priors. *IEEE Transactions on Biomedical Engineering*, **2016**, 63, 485-95	5	10
75	Assessment of the implant geometry in fractionated interstitial HDR breast brachytherapy using an electromagnetic tracking system. *Brachytherapy*, **2018**, 17, 94-102	2.4	10
74	Treatment of arrhythmias by external charged particle beams: a Langendorff feasibility study. *Biomedizinische Technik*, **2015**, 60, 147-56	1.3	10
73	FSRT vs. SRS in Brain Metastases-Differences in Local Control and Radiation Necrosis-A Volumetric Study. *Frontiers in Oncology*, **2020**, 10, 559193	5.3	9
72	Infrared camera based thermometry for quality assurance of superficial hyperthermia applicators. *Physics in Medicine and Biology*, **2016**, 61, 2646-64	3.8	9
71	Introduction of a hybrid treatment delivery system used for quality assurance in multi-catheter interstitial brachytherapy. *Physics in Medicine and Biology*, **2018**, 63, 095008	3.8	8
70	Scanned ion beam therapy for prostate carcinoma: Comparison of single plan treatment and daily plan-adapted treatment. *Strahlentherapie Und Onkologie*, **2016**, 192, 118-26	4.3	8
69	On the use of multi-dimensional scaling and electromagnetic tracking in high dose rate brachytherapy. *Physics in Medicine and Biology*, **2017**, 62, 7959-7980	3.8	7
68	Management of organ motion in scanned ion beam therapy. *Radiation Oncology*, **2017**, 12, 170	4.2	7
67	Impact of fractionation and number of fields on dose homogeneity for intra-fractionally moving lung tumors using scanned carbon ion treatment. *Radiotherapy and Oncology*, **2016**, 118, 498-503	5.3	7

66	First Steps Toward Ultrasound-Based Motion Compensation for Imaging and Therapy: Calibration with an Optical System and 4D PET Imaging. *Frontiers in Oncology*, **2015**, 5, 258	5.3	7
65	Experimental investigation of irregular motion impact on 4D PET-based particle therapy monitoring. *Physics in Medicine and Biology*, **2016**, 61, N20-34	3.8	6
64	Fast optimization and dose calculation in scanned ion beam therapy. *Medical Physics*, **2014**, 41, 071703	4.4	6
63	Treatment Parameters Optimization to Compensate for Interfractional Anatomy Variability and Intrafractional Tumor Motion. *Frontiers in Oncology*, **2015**, 5, 291	5.3	6
62	Performance of gimbal-based dynamic tumor tracking for treating liver carcinoma. *Radiation Oncology*, **2018**, 13, 242	4.2	6
61	Union of light ion therapy centers in Europe (ULICE EC FP7) - Objectives and achievements of joint research activities. *Radiotherapy and Oncology*, **2018**, 128, 83-100	5.3	5
60	On the use of particle filters for electromagnetic tracking in high dose rate brachytherapy. *Physics in Medicine and Biology*, **2017**, 62, 7617-7640	3.8	5
59	A kernel-based framework for intra-fractional respiratory motion estimation in radiation therapy **2017**,		5
58	Optimization of Single Voxel MR Spectroscopy Sequence Parameters and Data Analysis Methods for Thermometry in Deep Hyperthermia Treatments. *Technology in Cancer Research and Treatment*, **2017**, 16, 470-481	2.7	5
57	Development and performance evaluation of a dynamic phantom for biological dosimetry of moving targets. *Physics in Medicine and Biology*, **2010**, 55, 2997-3009	3.8	5
56	Paragangliomas of the Head and Neck: Local Control and Functional Outcome Following Fractionated Stereotactic Radiotherapy. *American Journal of Clinical Oncology: Cancer Clinical Trials*, **2019**, 42, 818-823	2.7	5
55	Volumetric Regression in Brain Metastases After Stereotactic Radiotherapy: Time Course, Predictors, and Significance. *Frontiers in Oncology*, **2020**, 10, 590980	5.3	5
54	Influence of patient mispositioning on SAR distribution and simulated temperature in regional deep hyperthermia. *Physics in Medicine and Biology*, **2017**, 62, 4929-4945	3.8	4
53	Dose calculation and verification of the Vero gimbal tracking treatment delivery. *Physics in Medicine and Biology*, **2018**, 63, 035043	3.8	4
52	Prediction methods for synchronization of scanned ion beam tracking. *Physica Medica*, **2013**, 29, 639-43	2.7	4
51	4D offline PET-based treatment verification in scanned ion beam therapy: a phantom study. *Physics in Medicine and Biology*, **2015**, 60, 6227-46	3.8	4
50	Quantification of an external motion surrogate for quality assurance in lung cancer radiation therapy. *BioMed Research International*, **2014**, 2014, 595430	3	4
49	129 FIRST STEPS TOWARDS 4D OFFLINE PET-BASED TREATMENT VERIFICATION AT THE HEIDELBERG ION BEAM THERAPY CENTER. *Radiotherapy and Oncology*, **2012**, 102, S55-S56	5.3	4

48	Dosimetric accuracy of the cone-beam CT-based treatment planning of the Vero system: a phantom study. *Journal of Applied Clinical Medical Physics*, **2016**, 17, 106-113	2.3	4
47	Assessment of the Implant Geometry in Fractionated Interstitial HDR Breast Brachytherapy. *Brachytherapy*, **2016**, 15, S39-S40	2.4	4
46	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
45	Regional deep hyperthermia: impact of observer variability in CT-based manual tissue segmentation on simulated temperature distribution. *Physics in Medicine and Biology*, **2017**, 62, 4479-4495	3.8	3
44	Error detection using an electromagnetic tracking system in multi-catheter breast interstitial brachytherapy. *Physics in Medicine and Biology*, **2019**, 64, 205018	3.8	3
43	Impact of inter- and intra-observer variabilities of catheter reconstruction on multi-catheter interstitial brachytherapy of breast cancer patients. *Radiotherapy and Oncology*, **2019**, 135, 25-32	5.3	3
42	Adaptive radiotherapy and the dosimetric impact of inter- and intrafractional motion on the planning target volume for prostate cancer patients. *Strahlentherapie Und Onkologie*, **2020**, 196, 647-656	4.3	3
41	Immobilization for carbon ion beam ablation of cardiac structures in a porcine model. *Physica Medica*, **2017**, 43, 134-139	2.7	3
40	Technical Note: Radiation properties of tissue- and water-equivalent materials formulated using the stoichiometric analysis method in charged particle therapy. *Medical Physics*, **2016**, 43, 308	4.4	3
39	Precision and Uncertainties in Proton Therapy for Moving Targets. *Series in Medical Physics and Biomedical Engineering*, **2011**, 435-460		3
38	SU-E-T-334: Clinical Implementation of Gating and Dose Verification with Scanned Ion Beams at HIT. *Medical Physics*, **2012**, 39, 3780-3781	4.4	3
37	TU-A-BRA-08: Integration of Optical Tracking for Organ Motion Compensation in Scanned Ion-Beam Therapy. *Medical Physics*, **2012**, 39, 3889-3889	4.4	3
36	On PTV definition for glioblastoma based on fiber tracking of diffusion tensor imaging data. *PLoS ONE*, **2020**, 15, e0227146	3.7	3
35	Penile bulb sparing in prostate cancer radiotherapy : Dose analysis of an in-house MRI system to improve contouring. *Strahlentherapie Und Onkologie*, **2019**, 195, 153-163	4.3	3
34	Comparison of intelligent 4D CT sequence scanning and conventional spiral 4D CT: a first comprehensive phantom study. *Physics in Medicine and Biology*, **2020**,	3.8	3
33	A novel concept for CT with fixed anodes (FACT): Medical imaging based on the feasibility of thermal load capacity. *Physica Medica*, **2015**, 31, 425-34	2.7	2
32	Differences in Dose Coverage and Uniformity in Fractionated High-Dose-Rate Interstitial Breast Brachytherapy Based on EMT Measurements. *International Journal of Radiation Oncology Biology Physics*, **2016**, 96, S169	4	2
31	Is adaptive treatment planning in multi-catheter interstitial breast brachytherapy necessary?. *Radiotherapy and Oncology*, **2019**, 141, 304-311	5.3	2

30	Method for a motion model based automated 4D dose calculation. *Physics in Medicine and Biology*, **2019**, 64, 225002	3.8	2
29	OC-0277: Assessment of the implant geometry in interstitial brachytherapy by a hybrid tracking system. *Radiotherapy and Oncology*, **2017**, 123, S143-S144	5.3	2
28	TH-C-350-05: Performance of a Beam Tracking System for Treatment of Moving Targets with Scanned Ion Beams. *Medical Physics*, **2008**, 35, 2967-2967	4.4	2
27	WE-G-213CD-01: 4D Optimization for Scanned Ion Beam Tracking Therapy for Moving Tumors. *Medical Physics*, **2012**, 39, 3970	4.4	2
26	SU-F-BRA-02: Electromagnetic Tracking in Brachytherapy as An Advanced Modality for Treatment Quality Assurance. *Medical Physics*, **2015**, 42, 3533-3534	4.4	2
25	Compensation of Target Motion **2012**, 545-558		2
24	Performance of Makerless Tracking for Gimbaled Dynamic Tumor Tracking. *Zeitschrift Fur Medizinische Physik*, **2020**, 30, 96-103	7.6	2
23	Low- vs. high-dose radiotherapy in GravesUophthalmopathy: aretrospective comparison of long-term results. *Strahlentherapie Und Onkologie*, **2021**, 197, 885-894	4.3	2
22	Education, training and registration of Medical Physics Experts across Europe. *Physica Medica*, **2021**, 85, 129-136	2.7	2
21	Implementation of adedicated 1.5 T MR scanner for radiotherapy treatment planning featuring anovel high-channel coil setup for brain imaging in treatment position. *Strahlentherapie Und Onkologie*, **2021**, 197, 246-256	4.3	2
20	The Distribution of Pelvic Nodal Metastases in Prostate Cancer Reveals Potential to Advance and Personalize Pelvic Radiotherapy. *Frontiers in Oncology*, **2020**, 10, 590722	5.3	2
19	Transient Enlargement in Meningiomas Treated with Stereotactic Radiotherapy.. *Cancers*, **2022**, 14,	6.6	2
18	Technical evaluation of the cone-beam computed tomography imaging performance of a novel, mobile, gantry-based X-ray system for brachytherapy.. *Journal of Applied Clinical Medical Physics*, **2021**,	2.3	2
17	Choosing a reference phase for a dynamic tumor tracking treatment: A new degree of freedom?. *Medical Physics*, **2019**, 46, 3371-3377	4.4	1
16	Current status of 4D offline PET-based treatment verification at the Heidelberg Ion-Beam Therapy Center **2013**,		1
15	First 4D in-beam PET measurement for beam tracking of a moving phantom with a scanned carbon ion beam **2008**,		1
14	SU-FF-J-126: Treatment of Moving Targets with Scanned Ion Beams: A Comparison of Different Strategies. *Medical Physics*, **2006**, 33, 2049-2049	4.4	1
13	Investigation of Feature-Based Nonrigid Image Registration Using Gaussian Process. *Informatik Aktuell*, **2020**, 156-162	0.3	1

12	Decoupling Respiratory and Angular Variation in Rotational X-ray Scans Using a Prior Bilinear Model. *Lecture Notes in Computer Science*, **2019**, 583-594	0.9	1
11	Region of interest optimization for radiation therapy of breast cancer. *Journal of Applied Clinical Medical Physics*, **2021**, 22, 152-160	2.3	1
10	QAMaster: A new software framework for phantom-based computed tomography quality assurance.. *Journal of Applied Clinical Medical Physics*, **2022**, e13588	2.3	1
9	Noncoplanar verification: a feasibility study using PhilipsUPinnacle3 treatment planning system. *Journal of Applied Clinical Medical Physics*, **2015**, 16, 84-90	2.3	0
8	First clinical evaluation of breathing controlled four-dimensional computed tomography imaging. *Physics and Imaging in Radiation Oncology*, **2021**, 20, 56-61	3.1	0
7	Evaluation of the influence of susceptibility-induced magnetic field distortions on the precision of contouring intracranial organs at risk for stereotactic radiosurgery. *Physics and Imaging in Radiation Oncology*, **2020**, 15, 91-97	3.1	0
6	Estimation of inter-fractional variations in interstitial multi-catheter breast brachytherapy using a hybrid treatment delivery system. *Radiotherapy and Oncology*, **2019**, 141, 312-320	5.3	0
5	First clinical experience with a novel, mobile cone-beam CT system for treatment quality assurance in brachytherapy.. *Strahlentherapie Und Onkologie*, **2022**, 1	4.3	0
4	TU-EE-A2-03: Target Motion Tracking with a Scanned Particle Beam: Calculation and Experimental Validation of Biologically Effective Doses in the Presence of Motion. *Medical Physics*, **2008**, 35, 2911-2911	4.4	
3	Respiratory Deformation Estimation in X-Ray-Guided IMRT Using a Bilinear Model. *Informatik Aktuell*, **2019**, 315-320	0.3	
2	Dense feature-based motion estimation in MV fluoroscopy during dynamic tumor tracking treatment: preliminary study on reduced aperture and partial occlusion handling. *Physics in Medicine and Biology*, **2020**, 65, 245039	3.8	
1	A generic curriculum development model for the biomedical physics component of the educational and training programmes of the non-physics healthcare professions. *Physica Medica*, **2021**, 85, 32-41	2.7	