Edmond s Sterpin

List of Publications by Year in Descending Order

99 papers	1,309 citations	20 h-index	32 g-index
146 ext. papers	1,674 ext. citations	2.7 avg, IF	4.69 L-index

#	Paper	IF	Citations
99	Development and validation of an automatic commissioning tool for the Monte Carlo dose engine in myQA iON.. *Physica Medica*, **2022**, 95, 1-8	2.7	0
98	Virtual monoenergetic micro-CT imaging in mice with artificial intelligence.. *Scientific Reports*, **2022**, 12, 2324	4.9	0
97	Spatiotemporal Distribution of Nanodroplet Vaporization in a Proton Beam Using Real-Time Ultrasound Imaging for Range Verification. *Ultrasound in Medicine and Biology*, **2022**, 48, 149-156	3.5	1
96	Improved healthy tissue sparing in proton therapy of lung tumors using statistically sound robust optimization and evaluation.. *Physica Medica*, **2022**, 96, 62-69	2.7	0
95	Treatment planning in arc proton therapy: Comparison of several optimization problem statements and their corresponding solvers. *Computers in Biology and Medicine*, **2022**, 105609	7	1
94	Ultrasound-assisted carbon ion dosimetry and range measurement using injectable polymer-shelled phase-change nanodroplets: in vitro study.. *Scientific Reports*, **2022**, 12, 8012	4.9	
93	Radiotherapy, Temozolomide, and Antiprogrammed Cell Death Protein 1 Treatments Modulate the Immune Microenvironment in Experimental High-Grade Glioma. *Neurosurgery*, **2021**, 88, E205-E215	3.2	8
92	Incorporation of tumor motion directionality in margin recipe: The directional MidP strategy. *Physica Medica*, **2021**, 91, 43-53	2.7	1
91	Deep learning dose prediction for IMRT of esophageal cancer: The effect of data quality and quantity on model performance. *Physica Medica*, **2021**, 83, 52-63	2.7	8
90	Modulating ultrasound contrast generation from injectable nanodroplets for proton range verification by varying the degree of superheat. *Medical Physics*, **2021**, 48, 1983-1995	4.4	4
89	Artificial intelligence and machine learning for medical imaging: A technology review. *Physica Medica*, **2021**, 83, 242-256	2.7	25
88	Artificial intelligence supported single detector multi-energy proton radiography system. *Physics in Medicine and Biology*, **2021**, 66,	3.8	1
87	openPR - A computational tool for CT conversion assessment with proton radiography. *Medical Physics*, **2021**, 48, 387-396	4.4	2
86	Feasibility of a TPS-integrated method to incorporate tumor motion in the margin recipe. *Medical Dosimetry*, **2021**, 46, 253-258	1.3	1
85	Development of robustness evaluation strategies for enabling statistically consistent reporting. *Physics in Medicine and Biology*, **2021**, 66, 045002	3.8	3
84	Ultrasound-assisted investigation of photon triggered vaporization of poly(vinylalcohol) phase-change nanodroplets: A preliminary concept study with dosimetry perspective. *Physica Medica*, **2021**, 89, 232-242	2.7	1
83	Accelerated robust optimization algorithm for proton therapy treatment planning. *Medical Physics*, **2020**, 47, 2746-2754	4.4	1

82	Dosimetric evaluation of synthetic CT generated with GANs for MRI-only proton therapy treatment planning of brain tumors. *Journal of Applied Clinical Medical Physics*, **2020**, 21, 76-86	2.3	15
81	Proton range verification with ultrasound imaging using injectable radiation sensitive nanodroplets: a feasibility study. *Physics in Medicine and Biology*, **2020**, 65, 065013	3.8	14
80	Radiation dose-escalation and dose-fractionation modulate the immune microenvironment, cancer stem cells and vasculature in experimental high-grade gliomas. *Journal of Neurosurgical Sciences*, **2020**,	1.3	5
79	A noise correction of the Γ index method for Monte Carlo dose distribution comparison. *Medical Physics*, **2020**, 47, 681-692	4.4	4
78	A study to investigate the influence of cardiac motion on the robustness of pencil beam scanning proton plans in oesophageal cancer. *Physics and Imaging in Radiation Oncology*, **2020**, 16, 50-53	3.1	1
77	Online adaptive dose restoration in intensity modulated proton therapy of lung cancer to account for inter-fractional density changes. *Physics and Imaging in Radiation Oncology*, **2020**, 15, 30-37	3.1	3
76	Mechanically-assisted non-invasive ventilation: A step forward to modulate and to improve the reproducibility of breathing-related motion in radiation therapy. *Radiotherapy and Oncology*, **2019**, 133, 132-139	5.3	10
75	Impact of backscatter material thickness on the depth dose of orthovoltage irradiators for radiobiology research. *Physics in Medicine and Biology*, **2019**, 64, 055001	3.8	4
74	Three-dimensional dose prediction for lung IMRT patients with deep neural networks: robust learning from heterogeneous beam configurations. *Medical Physics*, **2019**, 46, 3679-3691	4.4	63
73	Impact of machine log-files uncertainties on the quality assurance of proton pencil beam scanning treatment delivery. *Physics in Medicine and Biology*, **2019**, 64, 095021	3.8	5
72	Technical Note: Monte Carlo methods to comprehensively evaluate the robustness of 4D treatments in proton therapy. *Medical Physics*, **2019**, 46, 4676-4684	4.4	14
71	Monte Carlo calculation of beam quality correction factors in proton beams using PENH. *Physics in Medicine and Biology*, **2019**, 64, 185009	3.8	10
70	EPR imaging of magnetic field effects on radiation dose distributions around millimeter-size air cavities. *Physics in Medicine and Biology*, **2019**, 64, 175013	3.8	2
69	Estimation of respiratory phases during proton radiotherapy from a 4D-CT and Prompt gamma detection profiles. *Physica Medica*, **2019**, 64, 33-39	2.7	0
68	Towards fast and robust 4D optimization for moving tumors with scanned proton therapy. *Medical Physics*, **2019**, 46, 5434-5443	4.4	12
67	Feasibility of CT-Only 3D Dose Prediction for VMAT Prostate Plans Using Deep Learning. *Lecture Notes in Computer Science*, **2019**, 10-17	0.9	1
66	On the conversion of dose to bone to dose to water in radiotherapy treatment planning systems. *Physics and Imaging in Radiation Oncology*, **2018**, 5, 26-30	3.1	27
65	Feasibility of online IMPT adaptation using fast, automatic and robust dose restoration. *Physics in Medicine and Biology*, **2018**, 63, 085018	3.8	23

64	Patient-specific bolus for range shifter air gap reduction in intensity-modulated proton therapy of head-and-neck cancer studied with Monte Carlo based plan optimization. *Radiotherapy and Oncology*, **2018**, 128, 161-166	5.3	13
63	Reassessment of stopping power ratio uncertainties caused by mean excitation energies using a water-based formalism. *Medical Physics*, **2018**, 45, 3361-3370	4.4	9
62	Performance of a hybrid Monte Carlo-Pencil Beam dose algorithm for proton therapy inverse planning. *Medical Physics*, **2018**, 45, 846-862	4.4	12
61	Evaluation of motion mitigation using abdominal compression in the clinical implementation of pencil beam scanning proton therapy of liver tumors. *Medical Physics*, **2017**, 44, 703-712	4.4	39
60	Evolution of [F]fluorodeoxyglucose and [F]fluoroazomycin arabinoside PET uptake distributions in lung tumours during radiation therapy. *Acta Oncologica*, **2017**, 56, 516-524	3.2	15
59	Consistency in quality correction factors for ionization chamber dosimetry in scanned proton beam therapy. *Medical Physics*, **2017**, 44, 4919-4927	4.4	9
58	Correlation analysis of [F]fluorodeoxyglucose and [F]fluoroazomycin arabinoside uptake distributions in lung tumours during radiation therapy. *Acta Oncologica*, **2017**, 56, 1181-1188	3.2	13
57	Experimental assessment of proton dose calculation accuracy in inhomogeneous media. *Physica Medica*, **2017**, 38, 10-15	2.7	29
56	Radiation dose escalation based on FDG-PET driven dose painting by numbers in oropharyngeal squamous cell carcinoma: a dosimetric comparison between TomoTherapy-HA and RapidArc. *Radiation Oncology*, **2017**, 12, 59	4.2	10
55	Methodology for adaptive and robust FDG-PET escalated dose painting by numbers in head and neck tumors. *Acta Oncologica*, **2016**, 55, 217-25	3.2	20
54	Potential pitfalls of the PTV concept in dose-to-medium planning optimization. *Physica Medica*, **2016**, 32, 1103-10	2.7	4
53	Detection of mixed-range proton pencil beams with a prompt gamma slit camera. *Physics in Medicine and Biology*, **2016**, 61, 855-71	3.8	16
52	Sensitivity study of prompt gamma imaging of scanned beam proton therapy in heterogeneous anatomies. *Radiotherapy and Oncology*, **2016**, 118, 562-7	5.3	8
51	SU-F-T-121: Abdominal Compression Effectively Reduces the Interplay Effect and Enables Pencil Beam Scanning Proton Therapy of Liver Tumors. *Medical Physics*, **2016**, 43, 3489-3489	4.4	0
50	Towards 3D printed multifunctional immobilization for proton therapy: Initial materials characterization. *Medical Physics*, **2016**, 43, 5392	4.4	13
49	Estimating patient specific uncertainty parameters for adaptive treatment re-planning in proton therapy using in vivo range measurements and Bayesian inference: application to setup and stopping power errors. *Physics in Medicine and Biology*, **2016**, 61, 6281-96	3.8	
48	Fast multipurpose Monte Carlo simulation for proton therapy using multi- and many-core CPU architectures. *Medical Physics*, **2016**, 43, 1700	4.4	50
47	Monte Carlo evaluation of the dose calculation algorithm of TomoTherapy for clinical cases in dynamic jaws mode. *Physica Medica*, **2015**, 31, 273-80	2.7	2

46	Analytical computation of prompt gamma ray emission and detection for proton range verification. *Physics in Medicine and Biology*, **2015**, 60, 4915-46	3.8	24
45	Measurement of prompt gamma profiles in inhomogeneous targets with a knife-edge slit camera during proton irradiation. *Physics in Medicine and Biology*, **2015**, 60, 4849-71	3.8	41
44	Generation of prescriptions robust against geometric uncertainties in dose painting by numbers. *Acta Oncologica*, **2015**, 54, 253-60	3.2	13
43	Hypoxia-guided adaptive radiation dose escalation in head and neck carcinoma: a planning study. *Acta Oncologica*, **2015**, 54, 1008-16	3.2	36
42	Influence of the physical data to calibrate TEPCs. *Radiation Protection Dosimetry*, **2015**, 166, 238-41	0.9	2
41	Feasibility and robustness of dose painting by numbers in proton therapy with contour-driven plan optimization. *Medical Physics*, **2015**, 42, 2006-17	4.4	9
40	Monte Carlo simulations of patient dose perturbations in rotational-type radiotherapy due to a transverse magnetic field: a tomotherapy investigation. *Medical Physics*, **2015**, 42, 715-25	4.4	20
39	Tumour Movement in Proton Therapy: Solutions and Remaining Questions: A Review. *Cancers*, **2015**, 7, 1143-53	6.6	38
38	SU-F-BRD-15: Quality Correction Factors in Scanned Or Broad Proton Therapy Beams Are Indistinguishable. *Medical Physics*, **2015**, 42, 3529-3529	4.4	1
37	SU-F-BRD-05: Robustness of Dose Painting by Numbers in Proton Therapy. *Medical Physics*, **2015**, 42, 3526-3526	4.4	
36	ARCHERRT - a GPU-based and photon-electron coupled Monte Carlo dose computing engine for radiation therapy: software development and application to helical tomotherapy. *Medical Physics*, **2014**, 41, 071709	4.4	14
35	Metabolic imaging in non-small-cell lung cancer radiotherapy. *Cancer Radiotherapie: Journal De La Societe Francaise De Radiotherapie Oncologique*, **2014**, 18, 402-5	1.3	6
34	Monte Carlo tools to supplement experimental microdosimetric spectra. *Radiation Protection Dosimetry*, **2014**, 161, 454-8	0.9	8
33	Validation of the mid-position strategy for lung tumors in helical TomoTherapy. *Radiotherapy and Oncology*, **2014**, 110, 529-37	5.3	26
32	A Fano cavity test for Monte Carlo proton transport algorithms. *Medical Physics*, **2014**, 41, 011706	4.4	14
31	SU-E-T-464: On the Equivalence of the Quality Correction Factor for Pencil Beam Scanning Proton Therapy. *Medical Physics*, **2014**, 41, 333-333	4.4	1
30	TH-A-19A-08: Intel Xeon Phi Implementation of a Fast Multi-Purpose Monte Carlo Simulation for Proton Therapy. *Medical Physics*, **2014**, 41, 535-535	4.4	3
29	TH-C-BRD-01: Analytical Computation of Prompt Gamma Ray Emission and Detection for Proton Range Verification. *Medical Physics*, **2014**, 41, 550-550	4.4	1

28	SU-E-T-182: Feasibility of Dose Painting by Numbers in Proton Therapy with Contour-Driven Plan Optimization. *Medical Physics*, **2014**, 41, 264-264	4.4	
27	SU-F-BRD-02: Application of ARCHERRT-- A GPU-Based Monte Carlo Dose Engine for Radiation Therapy -- to Tomotherapy and Patient-Independent IMRT. *Medical Physics*, **2014**, 41, 395-395	4.4	
26	Evaluation of Gafchromic EBT3 films characteristics in therapy photon, electron and proton beams. *Physica Medica*, **2013**, 29, 599-606	2.7	138
25	Extension of PENELOPE to protons: simulation of nuclear reactions and benchmark with Geant4. *Medical Physics*, **2013**, 40, 111705	4.4	24
24	SU-E-T-79: Study On the Effective Depth of Measurement for Gafchromic EBT2 and EBT3 Films. *Medical Physics*, **2013**, 40, 221-221	4.4	2
23	WE-F-105-01: On the Importance of Nuclear Models On the Accuracy of Fast Monte Carlo Methods for Proton-Therapy. *Medical Physics*, **2013**, 40, 498-498	4.4	
22	SU-E-T-503: Exploiting the Rotational Symmetry of Tomotherapy to Reduce Dose Perturbations From MRI-Guided Radiotherapy: A Monte Carlo Investigation. *Medical Physics*, **2013**, 40, 321-321	4.4	
21	TH-C-144-10: On the Feasibility of Prompt Gamma Imaging in Heterogeneous Patient Anatomy. *Medical Physics*, **2013**, 40, 548-548	4.4	
20	Helical tomotherapy for SIB and hypo-fractionated treatments in lung carcinomas: a 4D Monte Carlo treatment planning study. *Radiotherapy and Oncology*, **2012**, 104, 173-80	5.3	21
19	Impact of the number of discrete angles used during dose computation for TomoTherapy treatments. *Medical Physics*, **2012**, 39, 6947-56	4.4	4
18	Validation of GPU based TomoTherapy dose calculation engine. *Medical Physics*, **2012**, 39, 1877-86	4.4	27
17	Monte Carlo computed machine-specific correction factors for reference dosimetry of TomoTherapy static beam for several ion chambers. *Medical Physics*, **2012**, 39, 4066-72	4.4	14
16	SU-E-T-118: Characterization of EBT3 Films in Photon and Proton Beams. *Medical Physics*, **2012**, 39, 3730	4.4	
15	Reference dosimetry for helical tomotherapy: practical implementation and a multicenter validation. *Medical Physics*, **2011**, 38, 6020-6	4.4	11
14	A slit method to determine the focal spot size and shape of TomoTherapy system. *Medical Physics*, **2011**, 38, 2841-9	4.4	11
13	Monte Carlo-based simulation of dynamic jaws tomotherapy. *Medical Physics*, **2011**, 38, 5230-8	4.4	9
12	A robust procedure for verifying TomoTherapy Hi-Art source models for small fields. *Physics in Medicine and Biology*, **2011**, 56, 3685-99	3.8	3
11	On the relationships between electron spot size, focal spot size, and virtual source position in Monte Carlo simulations. *Medical Physics*, **2011**, 38, 1579-86	4.4	18

10	Monte Carlo-based analytical model for small and variable fields delivered by TomoTherapy. *Radiotherapy and Oncology*, **2010**, 94, 229-34	5.3	12
9	Ion recombination for ionization chamber dosimetry in a helical tomotherapy unit. *Medical Physics*, **2010**, 37, 2876-89	4.4	37
8	TH-D-BRB-06: Fast and Accurate Monte Carlo-Based Simulation of Dynamic Jaw Helical TomoTherapy. *Medical Physics*, **2010**, 37, 3467-3467	4.4	
7	Monte Carlo evaluation of the convolution/superposition algorithm of Hi-Art tomotherapy in heterogeneous phantoms and clinical cases. *Medical Physics*, **2009**, 36, 1566-75	4.4	47
6	Response to "Comment on TMonte Carlo evaluation of the convolutionSuperposition algorithm of Hi-Art tomotherapy in heterogeneous phantoms and clinical casesT" [Med. Phys., (2009)]. *Medical Physics*, **2009**, 36, 3857	4.4	
5	Monte Carlo simulation of helical tomotherapy with PENELOPE. *Physics in Medicine and Biology*, **2008**, 53, 2161-80	3.8	42
4	Analytical model of the binary multileaf collimator of tomotherapy for Monte Carlo simulations. *Journal of Physics: Conference Series*, **2008**, 102, 012022	0.3	12
3	SU-GG-T-320: Monte Carlo Generation of Phase Spaces for Dose Computation in TomoTherapy. *Medical Physics*, **2008**, 35, 2799-2799	4.4	
2	Monte carlo evaluation of the AAA treatment planning algorithm in a heterogeneous multilayer phantom and IMRT clinical treatments for an Elekta SL25 linear accelerator. *Medical Physics*, **2007**, 34, 1665-77	4.4	71
1	Monte Carlo simulation of the Tomotherapy treatment unit in the static mode using MC HAMMER, a Monte Carlo tool dedicated to Tomotherapy. *Journal of Physics: Conference Series*, **2007**, 74, 021019	0.3	10