Marco Riboldi

List of Publications by Year
in descending order

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127 papers	2,635 citations	201385 27 h-index	253896 43 g-index
127 all docs	127 docs citations	127 times ranked	2308 citing authors

#	Article	IF	Citations
1	Investigating CT to CBCT image registration for head and neck proton therapy as a tool for daily dose recalculation. Medical Physics, 2015, 42, 1354-1366.	1.6	115
2	Comparison of Target Registration Errors for Multiple Image-Guided Techniques in Accelerated Partial Breast Irradiation. International Journal of Radiation Oncology Biology Physics, 2008, 70, 1239-1246.	0.4	109
3	Medical physics challenges in clinical MR-guided radiotherapy. Radiation Oncology, 2020, 15, 93.	1.2	101
4	MRI-guidance for motion management in external beam radiotherapy: current status and future challenges. Physics in Medicine and Biology, 2018, 63, 22TR03.	1.6	94
5	Real-time tumour tracking in particle therapy: technological developments and future perspectives. Lancet Oncology, The, 2012, 13, e383-e391.	5.1	88
6	â€œPatientâ€specific validation of deformable image registration in radiation therapy: Overview and caveatsâ€• Medical Physics, 2018, 45, e908-e922.	1.6	74
7	Automatic Segmentation and Online virtualCT in Head-and-Neck Adaptive Radiation Therapy. International Journal of Radiation Oncology Biology Physics, 2012, 84, e427-e433.	0.4	66
8	Use of machine learning methods for prediction of acute toxicity in organs at risk following prostate radiotherapy. Medical Physics, 2011, 38, 2859-2867.	1.6	60
9	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.	1.6	60
10	Multi-dimensional respiratory motion tracking from markerless optical surface imaging based on deformable mesh registration. Physics in Medicine and Biology, 2012, 57, 357-373.	1.6	59
11	Liver 4DMRI: A retrospective imageâ€based sorting method. Medical Physics, 2015, 42, 4814-4821.	1.6	57
12	Tumor Tracking Method Based on a Deformable 4D CT Breathing Motion Model Driven by an External Surface Surrogate. International Journal of Radiation Oncology Biology Physics, 2014, 88, 182-188.	0.4	56
13	Phantom based evaluation of CT to CBCT image registration for proton therapy dose recalculation. Physics in Medicine and Biology, 2015, 60, 595-613.	1.6	49
14	Targeting Accuracy in Real-time Tumor Tracking via External Surrogates: A Comparative Study. Technology in Cancer Research and Treatment, 2010, 9, 551-561.	0.8	48
15	Feasibility study on 3D image reconstruction from 2D orthogonal cineâ€<scp>MRI</scp> for <scp>MRI</scp>â€guided radiotherapy. Journal of Medical Imaging and Radiation Oncology, 2018, 62, 389-400.	0.9	44
16	A multiple points method for 4D CT image sorting. Medical Physics, 2011, 38, 656-667.	1.6	41
17	Magnetic Resonance Imagingâ€“Guided versus Surrogate-Based Motion Tracking in Liver Radiation Therapy: A Prospective Comparative Study. International Journal of Radiation Oncology Biology Physics, 2015, 91, 840-848.	0.4	41
18	Atlas-based segmentation in breast cancer radiotherapy: Evaluation of specific and generic-purpose atlases. Breast, 2017, 32, 44-52.	0.9	40

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19	Early tumor response prediction for lung cancer patients using novel longitudinal pattern features from sequential PET/CT image scans. Physica Medica, 2018, 54, 21-29.	0.4	38
20	Reproducibility of the external surface position in leftâ€breast DIBH radiotherapy with spirometerâ€based monitoring. Journal of Applied Clinical Medical Physics, 2014, 15, 130-140.	0.8	34
21	An adaptive fuzzy prediction model for real time tumor tracking in radiotherapy via external surrogates. Journal of Applied Clinical Medical Physics, 2013, 14, 102-114.	0.8	33
22	Commissioning and Quality Assurance of an Integrated System for Patient Positioning and Setup Verification in Particle Therapy. Technology in Cancer Research and Treatment, 2014, 13, 303-314.	0.8	33
23	Integration of Enhanced Optical Tracking Techniques and Imaging in IGRT. Journal of Radiation Research, 2007, 48, A61-A74.	0.8	31
24	Dosimetric effects within target and organs at risk of interfractional patient mispositioning in left breast cancer radiotherapy. International Journal of Radiation Oncology Biology Physics, 2004, 59, 861-871.	0.4	30
25	Intra-fraction respiratory motion and baseline drift during breast Helical Tomotherapy. Radiotherapy and Oncology, 2017, 122, 79-86.	0.3	30
26	Image guided particle therapy in CNAO room 2: Implementation and clinical validation. Physica Medica, 2015, 31, 9-15.	0.4	29
27	A tool for validating MRI-guided strategies: a digital breathing CT/MRI phantom of the abdominal site. Medical and Biological Engineering and Computing, 2017, 55, 2001-2014.	1.6	29
28	A ROI-based global motion model established on 4DCT and 2D cine-MRI data for MRI-guidance in radiation therapy. Physics in Medicine and Biology, 2019, 64, 045002.	1.6	28
29	3D optoelectronic analysis of interfractional patient setup variability in frameless extracranial stereotactic radiotherapy. International Journal of Radiation Oncology Biology Physics, 2006, 64, 635-642.	0.4	27
30	Evaluation of residual abdominal tumour motion in carbon ion gated treatments through respiratory motion modelling. Physica Medica, 2017, 34, 28-37.	0.4	27
31	A Hybrid Image Registration and Matching Framework for Real-Time Motion Tracking in MRI-Guided Radiotherapy. IEEE Transactions on Biomedical Engineering, 2018, 65, 131-139.	2.5	27
32	Patient set-up verification by infrared optical localization and body surface sensing in breast radiation therapy. Radiotherapy and Oncology, 2006, 79, 170-178.	0.3	26
33	Real-time tumor tracking with an artificial neural networks-based method: A feasibility study. Physica Medica, 2013, 29, 48-59.	0.4	26
34	MRI quantification of pancreas motion as a function of patient setup for particle therapy â€”a preliminary study. Journal of Applied Clinical Medical Physics, 2016, 17, 60-75.	0.8	26
35	Surrogate-driven deformable motion model for organ motion tracking in particle radiation therapy. Physics in Medicine and Biology, 2015, 60, 1565-1582.	1.6	25
36	Extension of the NCAT phantom for the investigation of intra-fraction respiratory motion in IMRT using 4D Monte Carlo. Physics in Medicine and Biology, 2010, 55, 1475-1490.	1.6	24

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37	Time-resolved volumetric MRI in MRI-guided radiotherapy: an in silico comparative analysis. Physics in Medicine and Biology, 2019, 64, 185013.	1.6	23
38	Motion Compensation in Hand-held Laser Scanning for Surface Modeling in Plastic and Reconstructive Surgery. Annals of Biomedical Engineering, 2009, 37, 1877-1885.	1.3	22
39	Optical eye tracking system for realâ€time noninvasive tumor localization in external beam radiotherapy. Medical Physics, 2015, 42, 2194-2202.	1.6	22
40	Evaluation of methods for opto-electronic body surface sensing applied to patient position control in breast radiation therapy. Medical and Biological Engineering and Computing, 2003, 41, 679-688.	1.6	21
41	Four-dimensional targeting error analysis in image-guided radiotherapy. Physics in Medicine and Biology, 2009, 54, 5995-6008.	1.6	21
42	Robustness of external/internal correlation models for real-time tumor tracking to breathing motion variations. Physics in Medicine and Biology, 2012, 57, 7053-7074.	1.6	21
43	Automated Fiducial Localization in CT Images Based on Surface Processing and Geometrical Prior Knowledge for Radiotherapy Applications. IEEE Transactions on Biomedical Engineering, 2012, 59, 2191-2199.	2.5	21
44	Quantification of lung tumor rotation with automated landmark extraction using orthogonal cine MRI images. Physics in Medicine and Biology, 2015, 60, 7165-7178.	1.6	21
45	Imageâ€based retrospective 4D <scp>MRI</scp> in external beam radiotherapy: A comparative study with a digital phantom. Medical Physics, 2018, 45, 3161-3172.	1.6	21
46	Deep inspiration breathâ€hold technique guided by an optoâ€electronic system for extracranial stereotactic treatments. Journal of Applied Clinical Medical Physics, 2013, 14, 14-25.	0.8	20
47	Quantification of organ motion based on an adaptive imageâ€based scale invariant feature method. Medical Physics, 2013, 40, 111701.	1.6	20
48	Set-up errors in head and neck cancer patients treated with intensity modulated radiation therapy: Quantitative comparison between three-dimensional cone-beam CT and two-dimensional kilovoltage images. Physica Medica, 2015, 31, 1015-1021.	0.4	20
49	Kinetic Models for Predicting Cervical Cancer Response to Radiation Therapy on Individual Basis Using Tumor Regression Measured In Vivo With Volumetric Imaging. Technology in Cancer Research and Treatment, 2016, 15, 146-158.	0.8	20
50	Target position reproducibility in leftâ€breast irradiation with deep inspiration breathâ€hold using multiple optical surface control points. Journal of Applied Clinical Medical Physics, 2018, 19, 35-43.	0.8	20
51	Validation of Automatic Contour Propagation for 4D Treatment Planning Using Multiple Metrics. Technology in Cancer Research and Treatment, 2013, 12, 501-510.	0.8	19
52	Proton beam radiotherapy: report of the first ten patients treated at the â€œCentro Nazionale di Adroterapia Oncologica (CNAO)â€• for skull base and spine tumours. Radiologia Medica, 2014, 119, 277-282.	4.7	19
53	Virtual 4DCT from 4DMRI for the management of respiratory motion in carbon ion therapy of abdominal tumors. Medical Physics, 2020, 47, 909-916.	1.6	19
54	Distant metastasis time to event analysis with CNNs in independent head and neck cancer cohorts. Scientific Reports, 2021, 11, 6418.	1.6	19

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55	Tumor tracking based on correlation models in scanned ion beam therapy: an experimental study. Physics in Medicine and Biology, 2013, 58, 4659-4678.	1.6	18
56	Dosimetric effects of residual uncertainties in carbon ion treatment of head chordoma. Radiotherapy and Oncology, 2014, 113, 66-71.	0.3	18
57	Examination of a deformable motion model for respiratory movements and 4D dose calculations using different driving surrogates. Medical Physics, 2017, 44, 2066-2076.	1.6	18
58	Multimodal image registration for the identification of dominant intraprostatic lesion in high-precision radiotherapy treatments. British Journal of Radiology, 2017, 90, 20170021.	1.0	18
59	Clinical practice vs. state-of-the-art research and future visions: Report on the 4D treatment planning workshop for particle therapy â€“ Edition 2018 and 2019. Physica Medica, 2021, 82, 54-63.	0.4	18
60	A comparative study between the imaging system and the optical tracking system in proton therapy at CNAO. Journal of Radiation Research, 2013, 54, i129-i135.	0.8	16
61	Evaluation of target coverage and margins adequacy during CyberKnife Lung Optimized Treatment. Medical Physics, 2018, 45, 1360-1368.	1.6	16
62	Accuracy in breast shape alignment with 3D surface fitting algorithms. Medical Physics, 2009, 36, 1193-1198.	1.6	15
63	Intra-fraction setup variability: IR optical localization vs. X-ray imaging in a hypofractionated patient population. Radiation Oncology, 2011, 6, 38.	1.2	15
64	Optical eye tracking system for noninvasive and automatic monitoring of eye position and movements in radiotherapy treatments of ocular tumors. Applied Optics, 2012, 51, 2441.	0.9	15
65	Porcine lung phantom-based validation of estimated 4D-MRI using orthogonal cine imaging for low-field MR-Linacs. Physics in Medicine and Biology, 2021, 66, 055006.	1.6	15
66	Enhanced Surface Registration Techniques for Patient Positioning Control in Breast Cancer Radiotherapy. Technology in Cancer Research and Treatment, 2004, 3, 51-58.	0.8	14
67	Advances in 4D Treatment Planning for Scanned Particle Beam Therapy â€” Report of Dedicated Workshops. Technology in Cancer Research and Treatment, 2014, 13, 485-495.	0.8	14
68	Offline and online LSTM networks for respiratory motion prediction in MR-guided radiotherapy. Physics in Medicine and Biology, 2022, 67, 095006.	1.6	14
69	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, 517-528.	0.8	13
70	A clustering approach to 4D MRI retrospective sorting for the investigation of different surrogates. Physica Medica, 2019, 58, 107-113.	0.4	13
71	Robust frameless stereotactic localization in extra-cranial radiotherapy. Medical Physics, 2006, 33, 1141-1152.	1.6	12
72	Genetic evolutionary taboo search for optimal marker placement in infrared patient setup. Physics in Medicine and Biology, 2007, 52, 5815-5830.	1.6	12

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73	Contrast-Enhanced Proton Radiography for Patient Set-up by Using X-Ray CT Prior Knowledge. International Journal of Radiation Oncology Biology Physics, 2014, 90, 628-636.	0.4	12
74	Deep learning based time-to-event analysis with PET, CT and joint PET/CT for head and neck cancer prognosis. Computer Methods and Programs in Biomedicine, 2022, 222, 106948.	2.6	12
75	Comparison Between Infrared Optical and Stereoscopic X-Ray Technologies for Patient Setup in Image Guided Stereotactic Radiotherapy. International Journal of Radiation Oncology Biology Physics, 2012, 82, 1706-1714.	0.4	11
76	A sinogram warping strategy for pre-reconstruction 4D PET optimization. Medical and Biological Engineering and Computing, 2016, 54, 535-546.	1.6	10
77	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.	0.8	9
78	Validation of a model for physical dose variations in irregularly moving targets treated with carbon ion beams. Medical Physics, 2019, 46, 3663-3673.	1.6	9
79	Accuracy of lowâ€dose proton <scp>CT</scp> image registration for pretreatment alignment verification in reference to planning proton <scp>CT</scp>. Journal of Applied Clinical Medical Physics, 2019, 20, 83-90.	0.8	9
80	Deformable image registration of the treatment planning CT with proton radiographies in perspective of adaptive proton therapy. Physics in Medicine and Biology, 2021, 66, 045008.	1.6	9
81	Scale Invariant Feature Transform as feature tracking method in 4D imaging: A feasibility study. , 2012, 2012, 6543-6.		8
82	The Role of Regularization in Deformable Image Registration for Head and Neck Adaptive Radiotherapy. Technology in Cancer Research and Treatment, 2013, 12, 323-331.	0.8	8
83	Regularization in Deformable Registration of Biomedical Images Based on Divergence and Curl Operators. Methods of Information in Medicine, 2014, 53, 21-28.	0.7	8
84	PET-CT scanner characterization for PET raw data use in biomedical research. Computerized Medical Imaging and Graphics, 2014, 38, 358-368.	3.5	8
85	Optimized PET Imaging for 4D Treatment Planning in Radiotherapy: the Virtual 4D PET Strategy. Technology in Cancer Research and Treatment, 2015, 14, 99-110.	0.8	8
86	Design and Testing of a Simulation Framework for Dosimetric Motion Studies Integrating an Anthropomorphic Computational Phantom into Four-dimensional Monte Carlo. Technology in Cancer Research and Treatment, 2008, 7, 449-456.	0.8	7
87	Validation of an automatic contour propagation method for lung cancer 4D adaptive radiation therapy. , 2009, , .		7
88	An imageâ€based method to synchronize coneâ€beam CT and optical surface tracking. Journal of Applied Clinical Medical Physics, 2015, 16, 117-128.	0.8	7
89	Scan path optimization with/without clustering for active beam delivery in charged particle therapy. Physica Medica, 2015, 31, 130-136.	0.4	7
90	Clinical evaluation of 4D PET motion compensation strategies for treatment verification in ion beam therapy. Physics in Medicine and Biology, 2016, 61, 4141-4155.	1.6	7

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91	Modeling the Interplay Between Tumor Volume Regression and Oxygenation in Uterine Cervical Cancer During Radiotherapy Treatment. IEEE Journal of Biomedical and Health Informatics, 2016, 20, 596-605.	3.9	7
92	e-Health solutions for better care: Characterization of health apps to extract meaningful information and support users' choices. , 2017, , .		7
93	Modeling RBEâ€weighted dose variations in irregularly moving abdominal targets treated with carbon ion beams. Medical Physics, 2020, 47, 2768-2778.	1.6	7
94	Patient-specific CT calibration based on ion radiography for different detector configurations in ¹H, ⁴He and ¹²C ion pencil beam scanning. Physics in Medicine and Biology, 2020, 65, 245014.	1.6	7
95	A Neural Network Based Method for Optical Patient Set-up Registration in Breast Radiotherapy. Annals of Biomedical Engineering, 2006, 34, 677-686.	1.3	6
96	Benefits of Six Degrees of Freedom for Optically Driven Patient Set-up Correction in SBRT. Technology in Cancer Research and Treatment, 2008, 7, 187-195.	0.8	6
97	Regional MLEM reconstruction strategy for PET-based treatment verification in ion beam radiotherapy. Physics in Medicine and Biology, 2014, 59, 6979-6995.	1.6	6
98	Automated identification of health apps' medical specialties and promoters from the store webpages. , 2017, , .		6
99	Response to: Reproducibility of the external surface position in leftâ€breast DIBH radiotherapy with spirometerâ€based monitoring: methodological mistake. Journal of Applied Clinical Medical Physics, 2014, 15, 401-401.	0.8	5
100	Risk Stratification Using 18F-FDG PET/CT and Artificial Neural Networks in Head and Neck Cancer Patients Undergoing Radiotherapy. Diagnostics, 2021, 11, 1581.	1.3	5
101	Single-isocenter stereotactic radiosurgery for multiple brain metastases: Impact of patient misalignments on target coverage in non-coplanar treatments. Zeitschrift Fur Medizinische Physik, 2022, 32, 296-311.	0.6	5
102	186. International Journal of Radiation Oncology Biology Physics, 2006, 66, S103-S104.	0.4	4
103	Proposal of a 4D ML reconstruction strategy for PET-based treatment verification in ion beam radiotherapy. , 2014, , .		4
104	First clinical investigation of a 4D maximum likelihood reconstruction for 4D PET-based treatment verification in ion beam therapy. Radiotherapy and Oncology, 2017, 123, 339-345.	0.3	4
105	X-ray CT adaptation based on a 2Dâ€“3D deformable image registration framework using simulated in-room proton radiographies. Physics in Medicine and Biology, 2022, 67, 045003.	1.6	4
106	Clinical investigations of a 4D ML reconstruction strategy for PET-based treatment verification in ion beam therapy. , 2014, , .		3
107	TU-A-BRA-08: Integration of Optical Tracking for Organ Motion Compensation in Scanned Ion-Beam Therapy. Medical Physics, 2012, 39, 3889-3889.	1.6	3
108	Projection-based deformable registration for tomographic imaging in ion beam therapy. , 2014, , .		2

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109	Optimal marker placement in hadrontherapy: Intelligent optimization strategies with augmented Lagrangian pattern search. Journal of Biomedical Informatics, 2015, 53, 65-72.	2.5	2
110	4D ML reconstruction as a tool for volumetric PETâ€based treatment verification in ion beam radiotherapy. Medical Physics, 2016, 43, 710-726.	1.6	2
111	A 2D-3D Deformable Image Registration Framework for Proton Radiographies in Adaptive Radiation Therapy. , 2019, , .		2
112	Electromagnetic Signal of a Proton Beam in Biological Tissues for a Potential Range-Verification Approach in Proton Therapy. Physical Review Applied, 2021, 15, .	1.5	2
113	An MRI framework for respiratory motion modelling validation. Journal of Medical Imaging and Radiation Oncology, 2021, 65, 337-344.	0.9	2
114	Dosimetric impact of geometric distortions in an MRI-only proton therapy workflow for lung, liver and pancreas. Zeitschrift Fur Medizinische Physik, 2020, , .	0.6	2
115	A patient-specific hybrid phantom for calculating radiation dose and equivalent dose to the whole body. Physics in Medicine and Biology, 2022, 67, 035005.	1.6	2
116	Extracranial frameless stereotactic radiosurgery with multi-modal imaging and opto-electronic position verification. International Congress Series, 2004, 1268, 318-322.	0.2	1
117	In Regard to Yang et al. International Journal of Radiation Oncology Biology Physics, 2012, 84, 304.	0.4	1
118	Contrast Enhanced Proton Radiography for In-room Soft Tissue-based Setup. International Journal of Radiation Oncology Biology Physics, 2012, 84, S53.	0.4	1
119	Integration of spatial distortion effects in a 4D computational phantom for simulation studies in extraâ€cranial MRIâ€guided radiation therapy: Initial results. Medical Physics, 2021, 48, 1646-1660.	1.6	1
120	MO-D-ValB-03: Genetic Evolutionary Taboo Search: A Novel Approach for Optimal Marker Placement in Infrared Patient Positioning. Medical Physics, 2006, 33, 2161-2161.	1.6	1
121	TH-E-BRA-05: Improving the Contrast of Proton and Carbon Radiography by Using CT Prior Knowledge. Medical Physics, 2012, 39, 4012-4012.	1.6	1
122	Development and validation of a prototypal neural networks-based tumor tracking method. , 2011, 2011, 2780-3.		0
123	Validation of deformable registration in adaptive radiation therapy with scale invariant feature transform. , 2012, , .		0
124	Theoretical tumor edge detection technique using multiple Bragg peak decomposition in carbon ion therapy. Biomedical Physics and Engineering Express, 2019, 5, 067002.	0.6	0
125	SU-FF-J-128: Uncertainties in Target Volume Surrogates in Image Guided External Beam Partial Breast Irradiation. Medical Physics, 2006, 33, 2050-2050.	1.6	0
126	SU-FF-J-92: Dosimetric Impact of Motion Mitigation Strategies in the Irradiation of Moving Tumors: A 4D Monte Carlo Simulation Study. Medical Physics, 2007, 34, 2389-2389.	1.6	0

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127	SU-FF-J-98: A Feature Matching Approach for the Automatic Correlation of Internal and External Motion in Lung Tumors. Medical Physics, 2007, 34, 2390-2391.	1.6	0