Andrea Mairani

List of Publications by Year
in descending order

42 papers	1,765 citations	430874 18 h-index	276875 41 g-index
44 all docs	44 docs citations	44 times ranked	2062 citing authors

#	Article	IF	Citations
1	Overview of the FLUKA code. Annals of Nuclear Energy, 2015, 82, 10-18.	1.8	540
2	The FLUKA Code: An Accurate Simulation Tool for Particle Therapy. Frontiers in Oncology, 2016, 6, 116.	2.8	182
3	Development of the open-source dose calculation and optimization toolkit matRad. Medical Physics, 2017, 44, 2556-2568.	3.0	178
4	Overcoming hypoxia-induced tumor radioresistance in non-small cell lung cancer by targeting DNA-dependent protein kinase in combination with carbon ion irradiation. Radiation Oncology, 2017, 12, 208.	2.7	75
5	Next generation multi-scale biophysical characterization of high precision cancer particle radiotherapy using clinical proton, helium-, carbon- and oxygen ion beams. Oncotarget, 2016, 7, 56676-56689.	1.8	72
6	Monte Carlo-based parametrization of the lateral dose spread for clinical treatment planning of scanned proton and carbon ion beams. Journal of Radiation Research, 2013, 54, i91-i96.	1.6	58
7	OpenDose: Open-Access Resource for Nuclear Medicine Dosimetry. Journal of Nuclear Medicine, 2020, 61, 1514-1519.	5.0	54
8	Development and Validation of Single Field Multi-Ion Particle Therapy Treatments. International Journal of Radiation Oncology Biology Physics, 2020, 106, 194-205.	0.8	43
9	Fast robust dose calculation on GPU for high-precision 1H, 4He, 12C and 16O ion therapy: the FRoG platform. Scientific Reports, 2018, 8, 14829.	3.3	41
10	FLUKA particle therapy tool for Monte Carlo independent calculation of scanned proton and carbon ion beam therapy. Physics in Medicine and Biology, 2019, 64, 075012.	3.0	41
11	Assessment of RBE-Weighted Dose Models for Carbon Ion Therapy Toward Modernization of Clinical Practice at HIT: InÂVitro, inÂVivo, and in Patients. International Journal of Radiation Oncology Biology Physics, 2020, 108, 779-791.	0.8	39
12	Biophysical modeling and experimental validation of relative biological effectiveness (RBE) for 4He ion beam therapy. Radiation Oncology, 2019, 14, 123.	2.7	37
13	Proton and helium ion radiotherapy for meningioma tumors: a Monte Carlo-based treatment planning comparison. Radiation Oncology, 2018, 13, 2.	2.7	36
14	FLASH Dose Rate Helium Ion Beams: First In Vitro Investigations. International Journal of Radiation Oncology Biology Physics, 2021, 111, 1011-1022.	0.8	34
15	Phase Space Generation for Proton and Carbon Ion Beams for External Usersâ€™ Applications at the Heidelberg Ion Therapy Center. Frontiers in Oncology, 2015, 5, 297.	2.8	33
16	FRoGâ€"A New Calculation Engine for Clinical Investigations with Proton and Carbon Ion Beams at CNAO. Cancers, 2018, 10, 395.	3.7	32
17	Monte Carlo simulations of a low energy proton beamline for radiobiological experiments. Acta OncolÃ³gica, 2017, 56, 779-786.	1.8	24
18	3D Monte Carlo bone marrow dosimetry for Lu-177-PSMA therapy with guidance of non-invasive 3D localization of active bone marrow via Tc-99m-anti-granulocyte antibody SPECT/CT. EJNMMI Research, 2019, 9, 76.	2.5	21

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19	Dosimetric validation of Monte Carlo and analytical dose engines with raster-scanning 1H, 4He, 12C, and 16O ion-beams using an anthropomorphic phantom. Physica Medica, 2019, 64, 123-131.	0.7	18
20	Measurement of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>He</mml:mi><mml:mprescripts /><mml:none /><mml:mn>4</mml:mn></mml:mmultiscripts></mml:math> charge- and mass-changing cross sections on H, C, O, and Si targets in the energy range 70â€“220 MeV/u for radiation transport calculations in ion-beam therapy. Physical Review C, 2019, 99, .	2.9	18
21	Are Further Cross Section Measurements Necessary for Space Radiation Protection or Ion Therapy Applications? Helium Projectiles. Frontiers in Physics, 2020, 8, .	2.1	18
22	Quantitative assessment of radiation dose and fractionation effects on normal tissue by utilizing a novel lung fibrosis index model. Radiation Oncology, 2017, 12, 172.	2.7	16
23	Spot-Scanning Hadron Arc (SHArc) Therapy: A Study With Light and Heavy Ions. Advances in Radiation Oncology, 2021, 6, 100661.	1.2	16
24	FRoG: An independent dose and LET_d prediction tool for proton therapy at ProBeamÂ® facilities. Medical Physics, 2020, 47, 5274-5286.	3.0	14
25	Advanced Treatment Planning. Medical Physics, 2018, 45, e1011-e1023.	3.0	13
26	Modeling the Effect of Hypoxia and DNA Repair Inhibition on Cell Survival After Photon Irradiation. International Journal of Molecular Sciences, 2019, 20, 6054.	4.1	12
27	In Vivo Validation of the BIANCA Biophysical Model: Benchmarking against Rat Spinal Cord RBE Data. International Journal of Molecular Sciences, 2020, 21, 3973.	4.1	12
28	Brainstem NTCP and Dose Constraints for Carbon Ion RTâ€”Application and Translation From Japanese to European RBE-Weighted Dose. Frontiers in Oncology, 2020, 10, 531344.	2.8	11
29	Modeling Direct and Indirect Action on Cell Survival After Photon Irradiation under Normoxia and Hypoxia. International Journal of Molecular Sciences, 2020, 21, 3471.	4.1	10
30	Impact of TPS calculation algorithms on dose delivered to the patient in proton therapy treatments. Physics in Medicine and Biology, 2019, 64, 075016.	3.0	8
31	FRoG dose computation meets Monte Carlo accuracy for proton therapy dose calculation in lung. Physica Medica, 2021, 86, 66-74.	0.7	6
32	Combined DNA Damage Repair Interference and Ion Beam Therapy: Development, Benchmark, and Clinical Implications of a Mechanistic Biological Model. International Journal of Radiation Oncology Biology Physics, 2022, 112, 802-817.	0.8	6
33	The Impact of Sub-Millisecond Damage Fixation Kinetics on the In Vitro Sparing Effect at Ultra-High Dose Rate in UNIVERSE. International Journal of Molecular Sciences, 2022, 23, 2954.	4.1	6
34	Biological Dose Optimization for Particle Arc Therapy Using Helium and Carbon Ions. International Journal of Radiation Oncology Biology Physics, 2022, 114, 334-348.	0.8	6
35	Spotâ€scanning hadron arc (SHArc) therapy: A proof of concept using singleâ€and multiâ€ion strategies with helium, carbon, oxygen, and neon ions. Medical Physics, 2022, 49, 6082-6097.	3.0	6
36	The Organ Sparing Potential of Different Biological Optimization Strategies in Proton Therapy. Advances in Radiation Oncology, 2021, 6, 100776.	1.2	5

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37	Carbon ion dosimetry on a fluorescent nuclear track detector using widefield microscopy. Physics in Medicine and Biology, 2020, 65, 21NT02.	3.0	5
38	Relative biological effectiveness of single and split helium ion doses in the rat spinal cord increases strongly with linear energy transfer. Radiotherapy and Oncology, 2022, 170, 224-230.	0.6	5
39	Potential of a Second-Generation Dual-Layer Spectral CT for Dose Calculation in Particle Therapy Treatment Planning. Frontiers in Oncology, 2022, 12, 853495.	2.8	5
40	How can we consider variable RBE and LETd prediction during clinical practice? A pediatric case report at the Normandy Proton Therapy Centre using an independent dose engine. Radiation Oncology, 2022, 17, 23.	2.7	4
41	Dualâ€layer spectral CT for proton, helium, and carbon ion beam therapy planning of brain tumors. Journal of Applied Clinical Medical Physics, 2022, 23, .	1.9	3
42	First application of the BIANCA biophysical model to carbon-ion patient cases. Physics in Medicine and Biology, 2022, , .	3.0	2