# Magdalena Bazalova-Carter

List of Publications by Year
in descending order



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|---|---|---|---|
| 109 papers | 2,296 citations | 236925 25 h-index | 233421 45 g-index |
| 110 all docs | 110 docs citations | 110 times ranked | 2360 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Spectroscopic characterization of a novel electronic brachytherapy system. Physics in Medicine and Biology, 2008, 53, 61-75. | 3.0 | 252 |
| 2 | RECORDS: improved Reporting of montE CarlO RaDiation transport Studies: Report of the <scp>AAPM</scp> Research Committee Task Group 268. Medical Physics, 2018, 45, e1-e5. | 3.0 | 178 |
| 3 | Dual-energy CT-based material extraction for tissue segmentation in Monte Carlo dose calculations. Physics in Medicine and Biology, 2008, 53, 2439-2456. | 3.0 | 171 |
| 4 | Physics and biology of ultrahigh dose-rate (FLASH) radiotherapy: a topical review. Physics in Medicine and Biology, 2020, 65, 23TR03. | 3.0 | 135 |
| 5 | Correction of CT artifacts and its influence on Monte Carlo dose calculations. Medical Physics, 2007, 34, 2119-2132. | 3.0 | 112 |
| 6 | Investigation of X-ray Fluorescence Computed Tomography (XFCT) and K-Edge Imaging. IEEE Transactions on Medical Imaging, 2012, 31, 1620-1627. | 8.9 | 81 |
| 7 | First Demonstration of Multiplexed X-Ray Fluorescence Computed Tomography (XFCT) Imaging. IEEE Transactions on Medical Imaging, 2013, 32, 262-267. | 8.9 | 79 |
| 8 | Tissue segmentation in Monte Carlo treatment planning: A simulation study using dual-energy CT images. Radiotherapy and Oncology, 2008, 86, 93-98. | 0.6 | 56 |
| 9 | Treatment planning for radiotherapy with very highâ€energy electron beams and comparison of VHEE and VMAT plans. Medical Physics, 2015, 42, 2615-2625. | 3.0 | 55 |
| 10 | Aligned nanofibrillar collagen scaffolds â€“ Guiding lymphangiogenesis for treatment of acquired lymphedema. Biomaterials, 2016, 102, 259-267. | 11.4 | 55 |
| 11 | Very highâ€energy electron ( <scp>VHEE</scp> ) beams in radiation therapy; Treatment plan comparison between <scp>VHEE</scp> , <scp>VMAT</scp> , and <scp>PPBS</scp>. Medical Physics, 2017, 44, 2544-2555. | 3.0 | 54 |
| 12 | X-Ray Luminescence and X-Ray Fluorescence Computed Tomography: New Molecular Imaging Modalities. IEEE Access, 2014, 2, 1051-1061. | 4.2 | 53 |
| 13 | Monte Carlo simulation of a computed tomography x-ray tube. Physics in Medicine and Biology, 2007, 52, 5945-5955. | 3.0 | 52 |
| 14 | The importance of tissue segmentation for dose calculations for kilovoltage radiation therapy. Medical Physics, 2011, 38, 3039-3049. | 3.0 | 47 |
| 15 | Molecular Magnetic Resonance Imaging of Tumor Response to Therapy. Scientific Reports, 2015, 5, 14759. | 3.3 | 43 |
| 16 | On the capabilities of conventional xâ€ray tubes to deliver ultraâ€high (FLASH) dose rates. Medical Physics, 2019, 46, 5690-5695. | 3.0 | 43 |
| 17 | Comparison of film measurements and Monte Carlo simulations of dose delivered with very highâ€energy electron beams in a polystyrene phantom. Medical Physics, 2015, 42, 1606-1613. | 3.0 | 40 |
| 18 | Kilovoltage beam Monte Carlo dose calculations in submillimeter voxels for small animal radiotherapy. Medical Physics, 2009, 36, 4991-4999. | 3.0 | 35 |

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|---|---|---|---|
| 19 | Order of Magnitude Sensitivity Increase in X-ray Fluorescence Computed Tomography (XFCT) Imaging With an Optimized Spectro-Spatial Detector Configuration: Theory and Simulation. IEEE Transactions on Medical Imaging, 2014, 33, 1119-1128. | 8.9 | 35 |
| 20 | Absolute dosimetric characterization of Gafchromic EBT3 and HDv2 films using commercial flat-bed scanners and evaluation of the scanner response function variability. Review of Scientific Instruments, 2016, 87, 073301. | 1.3 | 34 |
| 21 | Assessment of the quality of very high-energy electron radiotherapy planning. Radiotherapy and Oncology, 2016, 119, 154-158. | 0.6 | 34 |
| 22 | Development of XFCT imaging strategy for monitoring the spatial distribution of platinum-based chemodrugs: Instrumentation and phantom validation. Medical Physics, 2013, 40, 030701. | 3.0 | 33 |
| 23 | Optimized Detector Angular Configuration Increases the Sensitivity of X-ray Fluorescence Computed Tomography (XFCT). IEEE Transactions on Medical Imaging, 2015, 34, 1140-1147. | 8.9 | 33 |
| 24 | L-shell x-ray fluorescence computed tomography (XFCT) imaging of Cisplatin. Physics in Medicine and Biology, 2014, 59, 219-232. | 3.0 | 29 |
| 25 | FLASH radiotherapy with photon beams. Medical Physics, 2022, 49, 2055-2067. | 3.0 | 28 |
| 26 | Modality comparison for small animal radiotherapy: A simulation study. Medical Physics, 2013, 41, 011710. | 3.0 | 27 |
| 27 | Development of a high resolution voxelised head phantom for medical physics applications. Physica Medica, 2017, 33, 182-188. | 0.7 | 22 |
| 28 | Experimental validation of L-shell x-ray fluorescence computed tomography imaging: phantom study. Journal of Medical Imaging, 2015, 2, 043501. | 1.5 | 21 |
| 29 | Investigation of the effects of treatment planning variables in small animal radiotherapy dose distributions. Medical Physics, 2010, 37, 590-599. | 3.0 | 20 |
| 30 | Sheet beam xâ€ray fluorescence computed tomography (XFCT) imaging of gold nanoparticles. Medical Physics, 2018, 45, 2572-2582. | 3.0 | 17 |
| 31 | Multi-contrast K-edge imaging on a bench-top photon-counting CT system: acquisition parameter study. Journal of Instrumentation, 2020, 15, P10029-P10029. | 1.2 | 17 |
| 32 | Protonâ€induced xâ€ray fluorescence CT imaging. Medical Physics, 2015, 42, 900-907. | 3.0 | 16 |
| 33 | Monte Carlo modeling of ultrasound probes for image guided radiotherapy. Medical Physics, 2015, 42, 5745-5756. | 3.0 | 16 |
| 34 | Characterization of a plastic scintillating detector for the Small Animal Radiation Research Platform (<scp>SARRP</scp>). Medical Physics, 2019, 46, 394-404. | 3.0 | 15 |
| 35 | Contaminant detection in non-destructive testing using a CZT photon-counting detector. Journal of Instrumentation, 2021, 16, P01011-P01011. | 1.2 | 15 |
| 36 | Optimization of a table-top x-ray fluorescence computed tomography (XFCT) system. Physics in Medicine and Biology, 2018, 63, 235013. | 3.0 | 14 |

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|---|---|---|---|
| 37 | A 3D printed modular phantom for quality assurance of imageâ€guided small animal irradiators: Design, imaging experiments, and Monte Carlo simulations. Medical Physics, 2019, 46, 2015-2024. | 3.0 | 14 |
| 38 | External beam radiation therapy with kilovoltage x-rays. Physica Medica, 2020, 79, 103-112. | 0.7 | 14 |
| 39 | Orthorhombic Nonâ€Perovskite CsPbI<sub>3</sub> Microwires for Stable Highâ€Resolution Xâ€Ray Detectors. Advanced Optical Materials, 2022, 10, . | 7.3 | 14 |
| 40 | Monte Carlo simulations of a kilovoltage external beam radiotherapy system on phantoms and breast patients. Medical Physics, 2017, 44, 6548-6559. | 3.0 | 13 |
| 41 | Multi-institutional MicroCT image comparison of image-guided small animal irradiators. Physics in Medicine and Biology, 2017, 62, 5760-5776. | 3.0 | 13 |
| 42 | Photon-counting computed tomography of lanthanide contrast agents with a high-flux 330-Î¼m-pitch cadmium zinc telluride detector in a table-top system. Journal of Medical Imaging, 2020, 7, 1. | 1.5 | 13 |
| 43 | Feasibility of external beam radiation therapy to deep-seated targets with kilovoltage x-rays. Medical Physics, 2017, 44, 597-607. | 3.0 | 12 |
| 44 | Brief Report: External Beam Radiation Therapy for the Treatment of Human Pluripotent Stem Cell-Derived Teratomas. Stem Cells, 2017, 35, 1994-2000. | 3.2 | 12 |
| 45 | Validation of Varian TrueBeam electron phaseâ€“spaces for Monte Carlo simulation of MLCâ€shaped fields. Medical Physics, 2016, 43, 2894-2903. | 3.0 | 11 |
| 46 | MicroCT imaging dose to mouse organs using a validated Monte Carlo model of the small animal radiation research platform (SARRP). Physics in Medicine and Biology, 2018, 63, 115012. | 3.0 | 11 |
| 47 | [18F]-SuPAR: A Radiofluorinated Probe for Noninvasive Imaging of DNA Damage-Dependent Poly(ADP-ribose) Polymerase Activity. Bioconjugate Chemistry, 2019, 30, 1331-1342. | 3.6 | 11 |
| 48 | fastCAT: Fast cone beam CT (CBCT) simulation. Medical Physics, 2021, 48, 4448-4458. | 3.0 | 11 |
| 49 | Performance of a clinical gridded electron gun in magnetic fields: Implications for MRIâ€linac therapy. Medical Physics, 2016, 43, 5903-5914. | 3.0 | 10 |
| 50 | Technical Note: Manufacturing of a realistic mouse phantom for dosimetry of radiobiology experiments. Medical Physics, 2019, 46, 1030-1036. | 3.0 | 10 |
| 51 | The potential of L-shell X-ray fluorescence CT (XFCT) for molecular imaging. British Journal of Radiology, 2015, 88, 20140308. | 2.2 | 9 |
| 52 | Monte Carlo simulations of EBT3 film dose deposition for percentage depth dose (PDD) curve evaluation. Journal of Applied Clinical Medical Physics, 2020, 21, 314-324. | 1.9 | 9 |
| 53 | Initial Evaluation of the Performance of Novel Inorganic Scintillating Detectors for Small Animal Irradiation Dosimetry. IEEE Sensors Journal, 2020, 20, 4704-4712. | 4.7 | 9 |
| 54 | Characterization of an xâ€ray tubeâ€based ultrahigh doseâ€rate system for in vitro irradiations. Medical Physics, 2021, 48, 7399-7409. | 3.0 | 9 |

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|---|---|---|---|
| 55 | Design optimization of an electron-to-photon conversion target for ultra-high dose rate x-ray (FLASH) experiments at TRIUMF. Physics in Medicine and Biology, 2022, 67, 105003. | 3.0 | 9 |
| 56 | Monte Carlo optimization of a microbeam collimator design for use on the small animal radiation research platform (SARRP). Physics in Medicine and Biology, 2018, 63, 175004. | 3.0 | 8 |
| 57 | Optimization of radiochromic film stacks to diagnose high-flux laser-accelerated proton beams. Review of Scientific Instruments, 2020, 91, 093303. | 1.3 | 8 |
| 58 | Optimization of a CZT photon counting detector for contaminant detection. Journal of Instrumentation, 2021, 16, P11015. | 1.2 | 8 |
| 59 | Monte Carlo model of the scanning beam digital x-ray (SBDX) source. Physics in Medicine and Biology, 2012, 57, 7381-7394. | 3.0 | 7 |
| 60 | Inverse optimization of lowâ€cost kilovoltage xâ€ray arc therapy plans. Medical Physics, 2018, 45, 5161-5171. | 3.0 | 6 |
| 61 | Preclinical dose verification using a 3D printed mouse phantom for radiobiology experiments. Medical Physics, 2019, 46, 5294-5303. | 3.0 | 6 |
| 62 | Multi-contrast CT imaging using a high energy resolution CdTe detector and a CZT photon-counting detector. Journal of Instrumentation, 2022, 17, P01004. | 1.2 | 6 |
| 63 | Investigation of combined kV / MV CBCT imaging with a highâ€DQE MV detector. Medical Physics, 2019, 46, 563-575. | 3.0 | 5 |
| 64 | Design of a combined X-ray fluorescence Computed Tomography (CT) and photon-counting CT table-top imaging system. Journal of Instrumentation, 2020, 15, P06031-P06031. | 1.2 | 5 |
| 65 | A failure modes and effects analysis quality management framework for imageâ€guided small animal irradiators: A change in paradigm for radiation biology. Medical Physics, 2020, 47, 2013-2022. | 3.0 | 4 |
| 66 | A detective quantum efficiency for spectroscopic Xâ€ray imaging detectors. Medical Physics, 2021, 48, 6781-6799. | 3.0 | 4 |
| 67 | Experimental validation of Fastcat kV and MV cone beam CT (CBCT) simulator. Medical Physics, 2021, 48, 6869-6880. | 3.0 | 4 |
| 68 | MOâ€FGâ€303â€06: Evaluation of the Performance of Very Highâ€Energy Electron (VHEE) Beams in Radiotherapy: Five Clinical Cases. Medical Physics, 2015, 42, 3568-3568. | 3.0 | 4 |
| 69 | Monte Carlo dose calculations for phantoms with hip prostheses. Journal of Physics: Conference Series, 2008, 102, 012001. | 0.4 | 3 |
| 70 | Monte Carlo calculated kilovoltage x-ray arc therapy plans for three lung cancer patients. Biomedical Physics and Engineering Express, 2019, 5, 065022. | 1.2 | 3 |
| 71 | Unsupervised learning methods in X-ray spectral imaging material segmentation. Journal of Instrumentation, 2019, 14, P06022-P06022. | 1.2 | 3 |
| 72 | X-Ray Fluorescence Computed Tomography Induced by Photon, Electron, and Proton Beams. IEEE Transactions on Medical Imaging, 2019, 38, 2735-2743. | 8.9 | 3 |

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| 73 | High length-to-width aspect ratio lead bromide microwires via perovskite-induced local concentration gradient for X-ray detection. CrystEngComm, 2021, 23, 2215-2221. | 2.6 | 3 |
| 74 | MO-D-303A-06: ImaSim, An Animated Tool for Teaching Imaging. Medical Physics, 2009, 36, 2696-2697. | 3.0 | 3 |
| 75 | Dose calculations for preclinical radiobiology experiments conducted with singleâ€field cabinet irradiators. Medical Physics, 2022, , . | 3.0 | 3 |
| 76 | Measured and Monte Carlo simulated electron backscatter to the monitor chamber for the Varian TrueBeam Linac. Physics in Medicine and Biology, 2016, 61, 8779-8793. | 3.0 | 2 |
| 77 | Optimal planar X-ray imaging soft tissue segmentation using a photon counting detector. Journal of Instrumentation, 2019, 14, P01020-P01020. | 1.2 | 2 |
| 78 | Technical Note: Synthesizing of lung tumors in computed tomography images. Medical Physics, 2020, 47, 5070-5076. | 3.0 | 2 |
| 79 | SU-FF-T-408: Tissue Inhomogeneities in Monte Carlo Treatment Planning for Proton Therapy. Medical Physics, 2009, 36, 2616-2616. | 3.0 | 2 |
| 80 | SU-GG-J-128: Comparison of Dose Distributions for Small Animal Radiotherapy Using a MicroCT Scanner and a Single-Field Irradiator. Medical Physics, 2010, 37, 3175-3175. | 3.0 | 2 |
| 81 | Optimizing Novel Inorganic Scintillation Detectors for Applications in Medical Physics. , 2020, , . | | 2 |
| 82 | Lead-doped scintillator dosimeters for detection of ultrahigh dose-rate x-rays. Physics in Medicine and Biology, 2022, 67, 105007. | 3.0 | 2 |
| 83 | MO-D-330A-03: Correction of Streaking Artifacts in CT Images and Its Influence On Monte Carlo Dose Calculations. Medical Physics, 2006, 33, 2158-2159. | 3.0 | 1 |
| 84 | TU-E-BRB-06: Monte Carlo Simulations of a Novel Kilovoltage Radiotherapy Source. Medical Physics, 2011, 38, 3767-3768. | 3.0 | 1 |
| 85 | SUâ€GGâ€Jâ€131: Immobilization Bed for Multiâ€Modality Image Registration. Medical Physics, 2010, 37, 3175-3175. | 3.0 | 1 |
| 86 | Single-Crystal Bismuth Thiophosphate, BiPS<sub>4</sub>, as a Nontoxic and Mechanically Robust X-ray Detector. ACS Applied Materials & Interfaces, 2021, 13, 56296-56301. | 8.0 | 1 |
| 87 | Contaminant detection using a CZT photon counting detector with TDI image reconstruction. Journal of Instrumentation, 2022, 17, P05010. | 1.2 | 1 |
| 88 | RECORDS: improved Reporting of montE CarlO RaDiation transport Studies. International Journal of Radiation Oncology Biology Physics, 2018, 101, 792-793. | 0.8 | 0 |
| 89 | Dosimetry of a novel converging Xâ€ray source for kilovoltage radiotherapy. Medical Physics, 2021, 48, 5947-5958. | 3.0 | 0 |
| 90 | TH-D-332-01: The Use of Dual-Energy CT Images for Monte Carlo Treatment Planning: Material Extraction and Metal Artifact Reduction. Medical Physics, 2008, 35, 2990-2990. | 3.0 | 0 |

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| 91 | SU-DD-A3-04: Monte Carlo Simulation of a MicroCT-Based Small Animal Radiotherapy System. Medical Physics, 2009, 36, 2425-2425. | 3.0 | 0 |
| 92 | SU-FF-I-15: An Algorithm for Metal Streaking Artifact Reduction in Cone Beam CT. Medical Physics, 2009, 36, 2437-2737. | 3.0 | 0 |
| 93 | SU-FF-J-155: The Influence of Material Assignment On Monte Carlo Dose Calculations for Kilovoltage Small Animal Radiotherapy. Medical Physics, 2009, 36, 2512-2512. | 3.0 | 0 |
| 94 | SU-FF-T-671: Investigation of Effects of Treatment Planning Variables On Small Animal Therapy Dose Distributions. Medical Physics, 2009, 36, 2679-2679. | 3.0 | 0 |
| 95 | SUâ€GGâ€Tâ€449: Dosimetric Impact of CT Metal Artifacts on Proton Pencilâ€Beam Scanning Delivery. Medical Physics, 2010, 37, 3289-3290. | 3.0 | 0 |
| 96 | SU-E-T-316: Integration of Bioluminescence Imaging with Small Animal Radiotherapy for Treatment Planning and Response Assessment. Medical Physics, 2011, 38, 3560-3560. | 3.0 | 0 |
| 97 | TH-E-BRC-10: Accuracy of Monte Carlo Dose Calculations with Kilovoltage Photon Beams. Medical Physics, 2011, 38, 3871-3871. | 3.0 | 0 |
| 98 | SU-E-T-15: GEANT4 Microdosimetry for Simulation of Dose Enhancement in Vivo at Orthovoltage Energy. Medical Physics, 2011, 38, 3488-3489. | 3.0 | 0 |
| 99 | SU-E-T-315: In Silico, in Vitro, and in Vivo Quantification of Tungsten and Iodine in Dose Enhanced RT (DERT). Medical Physics, 2011, 38, 3560-3560. | 3.0 | 0 |
| 100 | SU-E-J-198: Bioluminescence Monitoring of Metastatic Breast Cancer: Quantitative Assessment of Radiation Treatment Effects and Tracking of Tumor Cells. Medical Physics, 2012, 39, 3698-3698. | 3.0 | 0 |
| 101 | WE-C-BRB-05: Monte Carlo Simulations and Experimental Validation of Rapid Dose Delivery with Very High-Energy Electron Beams. Medical Physics, 2012, 39, 3944-3944. | 3.0 | 0 |
| 102 | TH-A-213CD-02: BEST IN PHYSICS (IMAGING) - The Feasibility of Multiplexed Biomarker Detection Using X-Ray Stimulated Fluorescence Imaging. Medical Physics, 2012, 39, 3986-3986. | 3.0 | 0 |
| 103 | WE-C-217BCD-07: Best in Physics (Joint Eyiaging-Therapy) - Direct Imaging of the Uptake of Platinum Anticancer Agents Using X-Ray Stimulated Fluorescence: A Proof-Of-Concept Study. Medical Physics, 2012, 39, 3950-3951. | 3.0 | 0 |
| 104 | TH-A-213CD-01: Compton Scatter in X-Ray Fluorescence CT Imaging. Medical Physics, 2012, 39, 3986-3986. | 3.0 | 0 |
| 105 | WE-C-108-01: JUNIOR INVESTIGATOR WINNER - Towards Radiation Therapy with Very High-Energy Electron Beams. Medical Physics, 2013, 40, 474-474. | 3.0 | 0 |
| 106 | TH-A-141-05: Ultra-Sensitive X-Ray Fluorescence Computed Tomography. Medical Physics, 2013, 40, 523-523. | 3.0 | 0 |
| 107 | SU-E-J-63: Correlation Between Radiation Dose and Molecular Bioluminescence Responses of 4T1 Breast Cancer Cells for Adaptive Radiation Therapy. Medical Physics, 2013, 40, 164-164. | 3.0 | 0 |
| 108 | TH-A-141-03: High-Sensitivity L-Shell X-Ray Fluorescence CT Imaging of Cisplatin. Medical Physics, 2013, 40, 523-523. | 3.0 | 0 |

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|---|---|---|---|
| 109 | Investigation of image quality of MV and kV CBCT with lowâ€Z beams and high DQE detector. Medical Physics, 2022, , . | 3.0 | 0 |