Curriculum Vitae

Yannick Poirier, PhD

Assistant Professor, Department of Radiation Oncology

University of Maryland School of Medicine

**Date** October 25th 2023

**Contact Information**

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Foreign Languages: French (native)

**Education**

2003–2007 B.S., Physics (Honors), Université de Moncton, Canada

2007–2009 M.Sc., Medical Physics & Applied Radiation Sciences, McMaster University

Thesis advisor – Dr. Orest Ostapiak

*“The effect of small cylindrical air cavities on circumferential dose distributions due to small 6 MV photon fields”*

2009–2014 Ph.D., Physics, University of Calgary (CAMPEP Accredited)

Thesis Advisor – Dr. Mauro Tambasco, Co-advisor – Dr. Wendy Smith

 “*A clinically feasible characterization of a novel method for kV dose computation”*

**Post Graduate Education and Training**

2013–2015 Radiation Oncology Physics Residency, CancerCare Manitoba (CAMPEP)

2016 Varian Advanced Scripting Training, 2016 AAPM Conference, Washington DC

2017 Varian TrueBeam for Physicists, Varian training site, Las Vegas NV

2019 Varian ProBeam Proton training for Physicists, Maryland Proton Therapy Center, Baltimore MD

**Certifications**

2016 Member, Canadian College of Physicists in Medicine, Therapeutic Physics (MCCPM)

2019 Diplomate, American Board of Radiology, Therapeutic Physics (DABR)

2021 Fellow, Canadian College of Physicists in Medicine, Therapeutic Physics (FCCPM)

**Licensure**

2017–Present (Active) Authorized physicist for Ir-192 HDR Brachytherapy, Maryland

2023–Present (Active) Authorized physicist for Co-60 GammaPod, Maryland

**Employment History**

**Academic Appointments**

2016–2021 Assistant Professor, Department of Radiation Oncology, UMSOM

 Division of Medical Physics & Division of Translational Research Sciences

2021 Adjunct Assistant Professor, Department of Radiation Oncology, UMSOM

 Division of Medical Physics

2021 Assistant Professor, Department of Radiation Oncology, McGill University

 Medical Physics Unit

2022–Present Assistant Professor, Department of Radiation Oncology, UMSOM

Division of Medical Physics

**Other Employment**

2009–2013 Physics Assistant, Tom Baker Cancer Center, Calgary AB Canada

2015–2016 Physicist, Tom Baker Cancer Center, Calgary AB Canada

2021 Physicist, McGill University Health Centre, Montreal QC Canada

**Professional Society Membership**

2011–present General Member, Canadian Organization of Medical Physicists (COMP)

2012–present General Member, American Association of Physicists in Medicine (AAPM)

2017–present Early Career Investigator & General Member, Radiation Research Society (RRS)

**Honors and Awards**

2005 ACFAS-FESR third prize for best oral presentation, awarded during a regional undergraduate and graduate multi-disciplinary research competition.

2004–2007 NSERC Undergraduate Research Scholarship, Université de Moncton, awarded for high level of academic achievement and research potential

2010, 2011, Queen Elizabeth II Scholarship, University of Calgary, awarded for academic and

and 2013 research excellence during graduate studies

2014 Finalist, John Cunningham Young Investigators Symposium, Canadian Organization of Medical Physicists, awarded for high-quality oral presentation as part of the 2014 Canad-ian Organization of Medical Physicist (COMP) annual scientific meeting in Banff, AB

2016 Best Paper in Imaging Physics 2016, Journal of Applied Clinical Medical Physics (JACMP), awarded for best quality paper in the imaging physics subcategory of JACMP in 2016

2018, 2021, Early Career Investigator Travel Award, Radiation Research Society, awarded to

and 2023 promising early career investigators (within 10 years of obtaining terminal degree) who have recently are in the process of establishing an independent research laboratory.

2018 COMP Oral Presentation First place, presented at the CARO/COMP/CAMRT Joint Scientific Meeting Montreal, Quebec, September 12–15, 2018.

2019, 2023 Educator of the Year Award (“Golden Apple”), presented by the medical and physics radiation oncology residents for excellence in teaching and enthusiastic support of residency training during the academic year 2018–2019 and 2022–2023.

2021 Medical Physics Journal Distinguished Reviewer, issued for exemplary service to the Medical Physics journal during the year 2020.

**Clinical Activities**

**Clinical Expertise**

Board certified medical physicist

Clinical expertise in stereotactic radiation surgery and proton therapy, research focus in experimental dosimetry, kV x-ray physics, and physics in radiobiology.

**Scope of Clinical Practice:**

2009–2013 Tom Baker Cancer Centre, Academic Medical Cancer Center (~2900 patients/year)

 Medical Physics Assistant

Clinical Linear Accelerator Monthly Quality Assurance, Xstrahl 300 Orthovoltage Monthly and Annual Calibration

2013–2015 CancerCare Manitoba, Radiotherapy Clinic, Winnipeg MB (~3000 patients/yr)

Clinical linear accelerators, orthovoltage, GammaKnife quality assurance and treatment plan verification. Post-implant dosimetry for I-125 permanent seed prostate brachytherapy (~60 patients).

2015–2016 Tom Baker Cancer Center, Calgary AB, (~2900 patients/yr)

 Clinical linear accelerators, orthovoltage quality assurance and treatment plan verification.

 Treatment plan development & oversight for stereotactic radiation surgery (BrainLab).

2016–2021 University of Maryland Medical Center, Baltimore MD

Lead Physicist: supervision of other physicists and direction of the SRS program in cranial SRS treatment planning and delivery. Development of quality assurance program and implementation of single-isocenter multi-target technique (HypearArc).

Clinical linear accelerators, high-dose rate brachytherapy (Ir-192), internal brachytherapy (Y90 SIRS/Therasphere), hyperthermia quality assurance and treatment plan verification.

2021 McGill University Health Centre, Montreal QC

Clinical linear accelerators, CyberKnife quality assurance and treatment plan verification.

Treatment plan development & oversight for stereotactic radiation surgery (BrainLab).

2022–Present University of Maryland Medical Center, Baltimore MD

Clinical linear accelerators, high-dose rate brachytherapy (Ir-192), internal brachytherapy (Y90 SIRS/Therasphere), hyperthermia quality assurance and treatment plan verification.

Treatment plan development & oversight for stereotactic radiation surgery (Eclipse/Edge, GammaPod).

2022–Present Maryland Proton Therapy Center, Baltimore MD

Proton Physicist: Treatment plan review and verification for proton radiation treatments. Coverage of clinic during treatment.

**Clinical Programs Development**

2013 Development of quality assurance tests for linear accelerators, orthovoltage x-ray therapy Patient-specific IMRT measurements using MapCheck, EPID-based portal dosimetry.

2014 Commissioning of Oncentra treatment-planning system for HDR cervical and vaginal brachytherapy at CancerCare Manitoba.

2014 Development of several QA tests, including monthly output checks, ion chamber calibration verifications.

2015 Development and implementation of VMAT technique for extremity sarcomas at CancerCare Manitoba. Commissioning of Varian Edge SRS accelerator.

2016 Commissioning of 6DOF tests for daily, monthly and annual quality assurance, filmless daily Winston-Lutz test for Truebeams at Tom Baker Cancer Center.

2017 Lead Physicist, linac-based SRS Program.

Lead SRS planner. Planned 95 courses/259 lesions, representing 45% of all SRS treatments from 2017 to 2020.

2017 Created QA program for SRS Edge, including commissioning of tests for daily, monthly and annual quality assurance, filmless daily Winston-Lutz test for Varian Edge at University of Maryland Medical Center (UMMC).

2017 Development and oversight of treatment planning program for SRS at University of UMMC.

2017 Lead physicist and sole point of contact for all treatment planning concerns for linac-based SRS at UMMC.

2018 Development of single-isocenter multiple-target VMAT technique for intracranial metastases SRS at UMMC.

2019 Commissioning and implementation of the Varian HyperArc package for single-isocenter multiple-target VMAT technique for intracranial metastases SRS at UMMC. After implementation of HyperArc, the average number of plans treating multiple lesions increased from 15% to 25%, nearly doubling, leading to a much more efficient use of resources.

2020 Development and validation of 2nd calculation method for MU verification in SRS cone plans.

 Development and validation of off-center Winston-Lutz test for single-iso multi-target plans.

2021 Commissioning of MLC system on Elekta Cyberknife system at the McGill University Health Centre.

2023 Implementation of custom 3D printed bolus for electron & HDR treatments. Physics lead in departmental Sarcoma & Gyne clinical practice guideline revisions.

**Administrative Service**

**Institutional Service (UMSOM)**

2016–2021 Director, Pre-clinical physics

 Physics Standard Operating Procedures writer & reviewer (17 SOPs & 25 forms)

 Contributing Scientist Report writer & reviewer (5 reports to granting agencies)

2017–2020 Member, Medical Physics Residency Program Committee

Subject Matter Expert, Physics & Dosimetry for the Division of Translational Radiation Services (DTRS)

CV Reviewer & interviewer, Medical Physics Selection Committee

2018–2021 Member, Communication Committee, Radiation Oncology Department

2019 Self-study contributor, Residency Program CAMPEP re-accreditation

2022–Present Department Representative, UMSOM Council

Physics photon lead, Institutional clinical practice guidelines review, gynecological sites and sarcomas, Radiation Oncology Department

Reviewer, Medical Physics Residency CV review

Self-study contributor, Graduate certificate program initial CAMPEP accreditation

2023–Present Organizing committee & reviewer, Radiation Oncology Symposium

Member, Medical Physics Residency Program Committee

**Local and National Service**

**National Service**

2017–Present Abstract Reviewer, *Canadian Organization of Medical Physicists Annual Meeting* (20×/y*r)*

2019–Present Oral Session Moderator, *AAPM Annual Meeting* (1×/y*r)*

2019–Present Member, AAPM Working Group for Conformal Small Animal Irradiators

2019–Present Member, AAPM Task Group 319 on Guidelines for Accurate Dosimetry in Radiation Biology Studies

2019–Present Abstract reviewer, *AAPM Annual Meeting* (20x/y*r)*

2019–Present Moderator, *AAPM Annual Meeting*

2021–Present Chair, AAPM Working Group for Conformal Small Animal Irradiators

2021–Present Member, AAPM Biological Effects Subcommittee

2021–PresentAssociate Editor, *Medical Physics* (5x/yr)

2022–Present Member, AAPM Working Group for Veterinary Radiation Oncology

2023–Present Associate Editor, International Journal of Radiation Biology (5x/year)

2023–Present Editorial Board Member, Medical Physics Board of Associate Editors (15x/year)

**Ad Hoc Reviewer**

2013–Present *Medical Physics* (4x/yr)

2017–Present *Journal of Applied Clinical Medical Physics* (1x/yr), *Radiation Research* (1x/yr)

2019–Present *Physica Medica* (1x/yr)

2020–Present *Physics in Medicine and Biology* (1x/yr), *International Journal of Radiation Oncology, Biology, Physics* (1x/yr), *Advances in Radiation Oncology* (1x/yr), *Public Library of Science (PLOS) One* (2x/yr), *Diagnostics* (3x/yr)

2021–Present *Physics* (1x/yr), *Therapeutic Radiology and Oncology* (1x/yr), *Physics and imaging in Radiation Oncology* (1x/yr)

2023–Present *Frontiers in Radiation Oncology* (1x/year)

**Local Service**

2021–2022 Mock Examiner, AAPM Mid-Atlantic Chapter DABR Mock Exam

**Diversity, Equality and Inclusion (DEI) Activities and training**

2020 Everyday Bias for Healthcare Professionals Training, UMSOM

2022 A Summary of Radiation Oncology and AAPM Committee Diversity, Equity and Inclusion (DEI) Initiatives and Discussion of Faculty Participation Activities

2023 RAD-ONC “Allyship at work” training 3 hrs a year

 Member of Radiation oncology “DEI Movie Club” meeting 3×1 hrs a year

**International Service**

2021–Present Grant reviewer, National Science Center, Poland

2022–Present Grant Reviewer, German Research Foundation/Deutsche Forschungsgemeinschaft (DFG)

2022–Present Member, IPEM Working Party on standardization of dosimetry in Radiation Biology

2022–Present Member, Varian Flash Forward Consortium

2023–Present Chair, Varian Flash Forward Consortium e-FLASH Radiation Safety Working Group

**Teaching Service**

**Undergraduate Student Teaching**

2004–2007 Teaching assistant, Department of Physics & Astronomy, Université de Moncton

30, undergraduates – 120 contact hours/year

2007–2009 Teaching assistant, Department of Physics & Astronomy, Department of Mathematics, Department of Medical Physics, McMaster University

30, undergraduates – 300 contact hours/year

2009–2013 Teaching assistant, Department of Physics & Astronomy, University of Calgary

30, undergraduates – 300 contact hours/year

2015 Mentor, Department of Physics & Astronomy Undergraduate Thesis Project, University of Calgary

1, undergraduate – 50 contact hours/year

2017–2020 DOS21.102 Lecturer – Medical Treatment Planning Concepts I, University of Maryland School of Medicine

 2–4, undergraduates, 4–6 contact hours/year

**Resident Teaching**

2017–2018 Advanced Treatment Planning Rotation Mentor, UMMC

 1, physics resident – 20 contact hours/year

2017–2021 First-year resident advisor, UMMC

 1, physics resident – 26 contact hours/year

2017–Present Physics Board Exam Preparation Facilitator, UMMC

2–4, rad onc residents – 30 contact hours/year

2017–Present Radiation Physics for Radiation Oncology & Physics Residents, UMMC

8–10, physics and rad onc residents and dosimetry students – 2–4 contact hours/year

2022–Present Linear accelerator rotation mentor, UMMC

 1, physics resident – 15 contact hours/year

**Post-Graduate Teaching**

2015 PHYS 7370 Lecturer – Radiotherapy Physics (Khan), University of Manitoba, CAMPEP-accredited Medical Physics graduate MSc program

8, graduates – 8 contact hours/year.

2015 PHYS 7380 Lecturer – Radiation Biology (Hall) University of Manitoba, CAMPEP-accredited Medical Physics graduate MSc program

8, graduates – 4 contact hours/year.

2015 PHYS 7470 Lecturer – Methods of Medical Physics, University of Manitoba, CAMPEP-accredited Medical Physics graduate MSc program

2, graduate – 8 contact hours/year.

2015 CSD 52 Lecturer – Radiation Protection for the School of Radiation Therapy, University of Winnipeg/CancerCare Manitoba joint CAMRT-certified BSc in Radiation Therapy

6, graduates – 4 contact hours/year.

2016 MDPH 623 Lecturer – Radiological physics and radiation dosimetry (Attix), University of Calgary CAMPEP-accredited Medical Physics graduate MSc/PhD program

2, graduates – 2 contact hours/year.

2021 MDPH 601 Lecturer, Radiation Physics, McGill University CAMPEP-accredited Medical Physics graduate MSc program

7 graduates, 18 contact hours/year

2022–Present MP605 Coordinator and Lecturer, Introduction to Radiological Physics, University of Maryland School of Medicine CAMPEP-accredited Medical Physics post-doctoral certificate program

4 graduates, 18 contact hours/year

2023–Present MP606 Lecturer, Radiation Protection and Radiation Safety Introduction to Radiological Physics, University of Maryland School of Medicine CAMPEP-accredited Medical Physics post-doctoral certificate program

4 graduates, 1 contact hours/year

**Students and Trainees Mentored**

2012 **Mentor**, Medical Physics Graduate Program, San Diego State University/Tom Baker Cancer Centre

 2 MSc Students, daily contact for the summer

2016 **Mentor**, Physics undergraduate thesis project, University of Calgary/Tom Baker Cancer Centre

 1 undergraduate student, weekly contact over thesis project, continued during summer internship

2017–2021 **Supervisor**, DTRS Research Physicist, University of Maryland School of Medicine

 3 post-graduate/pre-residency researchers, daily contact and full-time supervision

2019 **Mentor**, Medical Dosimetry Program, University of Maryland School of Medicine

 1 medical dosimetry student, weekly meetings

2021–2022 **External thesis committee member,** University of Maryland School of Medicine

1 doctoral student, quarterly committee meetings

2023–Present **PhD Student Co-supervisor,** University of Maryland School of Medicine

1 doctoral student, weekly meetings

**Grant support**

**Active Grants**

7/1/22–6/30/23 (Collaborator 0%) PI: W. Deng

*Studying the relationship between linear energy transfer (LET) and FLASH sparing effect of proton FLASH radiation*

 UMB SOM/Radiation Oncology Departmental Seed Award

 Total Direct Costs: $11,000

Role: Design and validate radiation treatment technique used to irradiate cell cultures using distal edge of Bragg peak at FLASH dose rates.

**Completed Grants**

2016–2018 (Co-Inv 15%) PI: Z. Vujaskovic and I. Jackson

*A Non-Human Primate Model Study of Host Biomarker Expression Due to In-homogeneous Ionizing Radiation Exposure*

 BARDA HHSO10033002T, RTOR-RADNUC-1005

Total Direct Costs : $886,751

Role: Design irradiation technique used to deliver TBI to rhesus macaques, oversee dosimetry QA program to ensure accuracy of delivered radiation dose.

2016–2020 (Co-Inv 30%) PI: Z. Vujaskovic and I. Jackson

*Establishment of a Rabbit Model of Ionizing Radiation-induced Thrombocytopenia, Coagulopathies and Measures of Associated Vascular and Organ Injury*

 BARDA HHSO10033001T, RTOR-RADNUC-1002

Total Direct Costs : $1,889,476

Role: Design irradiation technique, train staff, write procedures used to deliver TBI to New Zealand rabbits and oversee dosimetry QA program to ensure accuracy of delivered radiation dose.

2017–2018 (Co-PI 0%) PI: I.Jackson and Y.Poirier

*FDG microPET-CT region-of-interest visualization, evaluation, and image registration (ROVER) quantification of acute lung injury in a rabbit model utilizing ipsilateral lung irradiation.*

UMB SOM/Radiation Oncology Departmental Seed Award

Total Direct Costs: $13,800

Role: Design radiation treatment plans used to irradiate lungs of New Zealand , oversee dosimetry QA program and ensure accuracy of delivered radiation dose.

2017–2019 (Co-Inv 10%) PI: I. Jackson

*A Non-Human Primate Model Study of Host Biomarker Expression Due to In-homogeneous Ionizing Radiation Exposure*

 Sub with Chrysalis BioTherapeutics

Total Direct Costs: $733,327

Role: Design irradiation technique, train staff, and write procedures used to deliver TBI to rhesus macaques, oversee dosimetry QA program to ensure accuracy of delivered radiation dose.

2017–2019 (Co-Inv 10%) PI: Z. Vujaskovic and I. Jackson

 *Evaluation of Coagulation Pathway-Targeting Drugs in the Rabbit Model of Acute Syndrome (ARS) for Potential New Indications as ARS Medical Countermeasures*

BARDA HHSO10033003T, RTOR-RADNUC-1006

Total Direct Costs $1,927,020

Role: Design irradiation technique, train staff, and write procedures used to deliver TBI to New Zealand rabbits, oversee dosimetry QA program to ensure accuracy of delivered radiation dose.

2018–2020 (Co-Inv 10%) PI: Z. Vujaskovic

*Evaluation of coagulation pathway targeting drugs in the minipig model of ARS*

BARDA HHSO10033004T - RTOR RADNUC 1007

Total Direct $2,135,634

Design irradiation technique, train staff, and write procedures used to deliver TBI to Gottingen Minipigs, oversee dosimetry QA program to ensure accuracy of delivered radiation dose.

2018–2021 (Co-Inv 10%) PI: Z. Vujaskovic and I. Jackson

*A NHP Efficacy Study of Bio300 for the Mitigation of DEARE-Induced Pneumonitis and Pulmonary Fibrosis*

Sub with Humanetics Corporation (prime NIH/NIAID)

Total Direct $1,300,590

Role: Design irradiation technique, train staff, and write procedures used to deliver bone-marrow sparing PBI to rhesus macaques, oversee dosimetry QA program to ensure accuracy of delivered radiation dose.

**Publications**

**Peer-reviewed journal articles**

1. **Y Poirier**, A Kouznetsov, M Tambasco. A simplified approach to characterizing a kilovoltage source spectrum for accurate dose composition. Med Phys. 2012 Jun;39(6):3041–3050.

2. C Kirkby, E Ghasroddashti, **Y Poirier**, M Tambasco, RD Stewart. RBE of kV CBCT radiation determined by Monte Carlo DNA damage simulations. Phys. Med. Biol. 2013 Aug 21;58(16):5693–5704. *Created the CBCT source beam model used to perform the Monte Carlo simulations.*

3. J Grafe, **Y Poirier**, F Jacso, R Khan, HW Liu, JE Villareal-Barajas. Assessing the deviation from Inverse square law for orthovoltage beams with close-ended applicators. J. Appl. Clin. Med Phys. 2014 Jul 8;15(4):356–366. *Performed the theoretical Monte Carlo simulations in the manuscript.*

4. **Y Poirier**, A Kouznetsov, B Koger, M Tambasco. Experimental validation of a simplified kV imaging source model. Med Phys**.** 2014 Apr;41(4):041915.

5. C Johnstone, R LaFontaine, **Y Poirier**, M Tambasco. Modeling a superficial radiotherapy x-ray source for relative dose calculations. J. Appl. Clin. Med Phys. 2015 May 8;16(3):118–130.

6. M Sommerville, **Y Poirier**, M Tambasco. A measurement-based x-ray source model characterization for CT dosimetry computations. J. Appl. Clin. Med Phys. 2015 Nov 8;16(6):386–400. *This publication won the best paper in imaging physics for 2016.*

7. **Y Poirier**, M Tambasco. Experimental validation of a kV dose computation method for CBCT imaging in an anthropomorphic phantom. J. Appl. Clin. Med Phys. 2016 Jul 8;17(4):155–171.

8. C Johnstone, P Lindsay, E Graves, E Wong, J Perez, **Y Poirier**, Y Ben-Bouchta, T Kanesalingam, R Haijian, A Rubinstein, K Sheng, M Bazalova-Carter. Multi-institutional MicroCT image com-parison of image-guided small animal irradiators. Phys Med Biol. 2017 Jun 26;62(14):5760–5776.

9. **Y Poirier**, S Kuznetsova, E-J Villarreal-Barajas. Characterization of nanoDot optically stimulated luminescence detectors and high-sensitivity MCP-N thermoluminescent detectors in the 40–300 kVp energy range. Med Phys. 2018 Jan;45(1):402–413.

10. A Anvari, **Y Poirier**, A Sawant. Development and implementation of EPID-based quality assurance tests for the small animal radiation research platform (SARRP). Med Phys. 2018 Jul;45(7):3246–3257.

11. K Martell\*, **Y Poirier\***, T Zhang, A Hudson, D Spencer, Ferenc Jacso, R Hayashi, R Banerjee, R Khan, N Wolfe, and J-P Voroney. Radiation therapy for deep periocular cancer treatments when protons are unavailable: Is combining electrons and orthovoltage therapy beneficial? J Rad Res. 2018 Sep 1;59(5):593-603*.\*Contributions from these authors are equal and they should be considered as co-first authors*

12. A Anvari, **Y Poirier**, A Sawant. Kilovoltage transit and exit dosimetry for a small animal image-guided radiotherapy system using built-in EPID. Med Phys. 2018 Oct;45(10):4642–4651.

13. **Y Poirier**, C Johnstone, C Kirkby. The potential impact of ultrathin filter design on dosimetry and relative biological effectiveness in modern image-guided small animal irradiators. Br J Radiol. 2019 Mar;92(1095):20180537.

14. J Cohen, A Anvari, S Samanta, **Y Poirier**, A Alexander, M Ranjbar, R Pavlovic, A Zodda, IL Jackson, J Mahmood, Z Vujascovic, A Sawant. Mild hyperthermia as a localized radiosensitizer for deep-sated tumors: Investigation in an orthotopic prostate cancer model in mice. Br J Radiol 2019 Mar;92(1095):20180759.

15. A Anvari, **Y Poirier**, A Sawant. A comprehensive geometric quality assurance framework for preclinical microirradiators. Med Phys. 2019 Apr;46(4):1840–1851.

16. IL Jackson, A Gibbs, **Y Poirier**, L Wathen, J Eley, E Draeger, M Gopalakrishnan, B Benjamin, Z Vujaskovic. Hematological effects of non-homogeneous ionizing radiation exposure in a non-human primate model. Rad Res. 2019 May;191(5):428–438. *Developed irradiation protocol used in radiobiology study, performed dose verification measurements.*

17. SJ Becker, Y Niu, Y Mutaf, K Prado, S Chen, **Y Poirier**, E Nichols, BY Yi. Development and validation of a comprehensive patient-specific quality assurance program for a novel stereotactic radiation delivery system for breast lesions. J Appl Clin Med Phys. 2019 Dec;20(12):138–148.

18. E Draeger, A Sawant, C Johnstone, B Koger, S Becker, Z Vujaskovic, I-L Jackson, **Y Poirier**. A Dose of Reality: How 20 years of incomplete physics and dosimetry reporting in radiobiology may have contributed to the reproducibility crisis. Int J Radiat Oncol Biol Phys. 2020 Feb 1;106(2):243–252.

19. **Y Poirier**, C Johnstone, A Anvari, N P Brodin, M Dos Santos M Bazalova-Carter, A Sawant. A Failure Modes and Effects Analysis quality management framework for image-guided small animal irradiators: A change in paradigm for radiation biology. Med Phys. 2020 Apr;47(4):2013–2022.

20. JS Remick, E Kowalski, R Khairnar, K Sun, E Morse, HRR Cherng, **Y Poirier**, N Lamichhane, S Becker, S Chen, A Patel, Y Kwok, E Nichols, P Mohindra, G Woodworth, WF Regine, MV Mishra. A multi-center analysis of single-fraction versus hypofractionated stereotactic radiosurgery for the treatment of brain metastasis. Radiat Oncol. 2020 May 28;15(1):128.

21. **Y Poirier**, M Belley, M Dewhirst, T Yoshizumi, J Down. Transitioning from Gamma Rays to Xrays for Comparable Biomedical Research Irradiations: Energy Matters. Rad Res. 2020 Jun 1;193(6):506–511.

22. S Becker, W Culberson, **Y Poirier**, Y Mutaf, Y Niu, E Nichols, B Yi. Dosimetry evaluation of the GammaPod stereotactic radiosurgery device based on established AAPM and IAEA protocols. Med Phys. 2020 Aug;47(8):3614–3620.

23. E Kowalski, JS Remick, K Sun, G Alexander, R Khamar, E Morse, HR Cherng, LA Berg, **Y Poirier**, N Lamichhane, SJ Becker, S Chen, JK Molitoris, Y Kwok, WF Regine, MV Mishra. Immune Checkpoint Inhibition in Patients Treated with Stereotactic Radiation for Brain Metastases. Radiat Oncol. 2020 Oct 27;15(1):245.

24. **Y Poirier**, S Becker, C Decesaris, W Culberson, E Draeger, A Gerry, C Johnstone, Z Vujaskovic, I-L Jackson. The Impact of Radiation Energy on Dose Homogeneity and Organ in the Gottingen Minipig Total Body Irradiation Model. Rad Res. 2020 Nov 10;194(5):544–556.

25. CM DeCesaris, A Pollock, B Zhang, **Y Poirier**, E Kowalski, K Paulosky, MV Mishra, E Nichols. Assessing the Need for Adjusted Organ-at-Risk Planning Goals for Patients Undergoing Adjuvant Radiotherapy for Locally Advanced Breast Cancer with Proton Radiation. Prac Radiat Oncol. 2021 Mar-Apr;11(2):108–118.

26.**Y Poirier**, S Becker, S Mossahebi, B Koger, J Xu, N Lamichhane, P Maxim, A Sawant. Radiation shielding and safety implications following linac conversion to an electron FLASH-RT unit. Med Phys. 2021 Sep;48(9):5396–4405.

27. P Parekh, E Solano-Gonzalez, X Ma, K Tighe, A Casildo, A Zodda, C Johnstone, **Y Poirier**, MB Martins, J Mahmood, K Bhalla, S Li, R Lapidus, F Carrier. DUOX2, a new biomarker for Disseminated Gastric Cancer’s response to low dose radiation in mice. Cancers (Basel). 2021 Aug 20;13(16):4186. *Developed irradiation protocol for low-dose abdomen & cell irradiations, performed dose verification measurements.*

28. **Y Poirier**, C Prado, K Prado, E Draeger, I L Jackson, Z Vujaskovic. Use of modern CT simulation and 3-D radiation therapy planning system to develop and validate a total-body irradiation technique for the New Zealand White Rabbit. Int J Radiat Biol. 2021;97(Sup1):S10-18.

29. IL Jackson, G Gurung, **Y Poirier**, M Gopalakrishnan, E Cohen, T-S Donohue, M Cohen, D Newman, Z Vujaskovic. A New Zealand White Rabbit Model of Thrombocytopenia and Coagulopathy Following Total Body Irradiation Across the Dose Range to Induce the Hematopoietic-Subsyndrome of Acute Radiation Syndrome. Int J Radiat Biol. 2021;97 (Sup 1):S19–31. *Developed irradiation protocol for rabbit total-body irradiations, performed dose verification measurements.*

30. IL Jackson, G Gurung, E Ayompe, ER Fown, S Triesler, B Mali, A Casildo, A Gibbs, **Y Poirier**, E Cohen, D Newman, Z Vujaskovic. Characterization of the Severe Hemorrhagic Syndrome in the New Zealand White Rabbit Model Following Total Body Irradiation. Int J Radiat Biol. 2021;97 (Sup 1):S32–44. *Developed irradiation protocol for rabbit total-body irradiations, performed dose verification measurements.*

31. C Mahuva, NM Esplen, **Y Poirier**, S Kry, M Bazalova-Carter. Dose calculations for preclinical radiobiology experiments conducted with single-field cabinet irradiators. Med Phys. 2022 Mar;49(3):1911–1923.

32. A Perstin, **Y Poirier**, G Mardirossian, T Schulze, A Sawant, M Tambasco, Quantifying the DNA-damaging effects of FLASH irradiation with a plasmid DNA-based detecto. Int J Radiat Oncol Biol Phys. 2022 Jun 1;113(2):437–447. *Designed, verified & executed the irradiation portion of the study.*

33. AM Salem, IL Jackson, A Gibbs, **Y Poirier**, D Newman, A Zodda, Z Vujaskovic, MD Kaytor, AA Serebrenik, J Gobburu1, M Gopalakrishnan. Interspecies Comparison and Irradiation Effect on Pharmacokinetics of BIO 300, a Nanosuspension of Genistein, Following Different Routes of Administration in Mice and Non-Human Primates. Rad Res. 2022 May 1;197(5):447–458. R*esponsible for all irradiation protocols and radiation dose verification for biological study.*

34. **Y Poirier**, J Xu, S Mossahebi, F Theriault-Proulx, A Sawant. Technical note: Characterization, validation, and proof in principle in a novel plastic scintillator for on-line FLASH dosimetry. Med Phys. 2022 Jul;49(7):4682–4692.

35. HD Shukla, T Dukic, S Roy, B Bhandary, A Gerry, **Y Poirier**, N Lamichhane, J Molitoris, F Carrier, A Banerjee, WF Regine, JC Polf. Pancreatic cancer derived 3D organoids as a model to study and predict treatment response to radiation and chemo-radiation therapy. Front Oncol. 2022;12:1072774. *Developed irradiation protocol for cell cultures and organoids and performed dose verification measurements.*

36. A Gibbs, P Gupta, B Mali, **Y Poirier**, M Gopalakrishnan, D Newman, A Zodda, JD Down, A Serebrenik, MD Kaytor, IL Jackson. A C57L/J mouse model of the delayed effects of acute radiation exposure in the context of evolving multi-organ dysfunction and failure after total body irradiation with 2.5% bone marrow sparing. Radiat Res. 2023 Apr 1;199(4):319–335. *Oversaw mouse total body irradiation protocol and performed dose verification measurements.*

37. **Y Poirier**, LA DeWerd, F Trompier, M Dos Santos, K Sheng, K Kunugi, MM Satyamitra, AL DiCarlo, TA Winters. Commentary: Minimum Reporting Standards Should be Expected for PreClinical Radioiology Irradiators and Dosimetry in the Published Literature. Radiat Res. 2023 Sep 1;200(3):217–222.

38. F Trompier, LA DeWerd, **Y Poirier**, M Dos Santos, K Sheng, K Kunugi, TA Winters, AL DiCarlo, MM Satymitra. Commentary: Minimum Reporting Standards Should be Expected for PreClinical Radioiology Irradiators and Dosimetry in the Published Literature. Int J Radiat Biol. 2023 Sep 12;100(1):1–6.

39. B Yi, J Jatczak, W Deng, **Y Poirier**, W Yao, M Witeck, J Molitoris, M Zakhary, B Zhang, N Biswal, M Ferris, S Mossahebi. Is noncoplanar plan more robust to setup variations in treating bilateral HN tumors with pencil-beam scanning proton beams. J Appl Clin Med Phys. 2023; e14186 <https://doi.org/10.1002/acm2.14186>.

40. M Byrne, **Y Poirier**, J Xu, A Gerry, M Foley, I-L Jackson, A Sawant, K Jiang. A platform for investigating the dependence of the FLASH effect on electron beam parameters in small animals” Med Phys 2024Mar;51(2):1421-1432.

41. W Stern, P Alaei, R Berbeco, LA DeWerd, J Kamen, C MacKenzie, EG. Moros **Y Poirier**, CA Potter, D Schaue, IS Patallo,, Michael A, S Swarts, F Trompier, Achieving Consistent Reporting of Radiation Dosimetry by Adoption of Compatibility in Irradiation Research Protocols Expert Roundtable (CIRPER) Recommendations, Radiat Res 2024;201(3):267-269.

42. W Stern, A Parham, R Berbeco, LA DeWerd, J Mane, C MacKenzie, EG moros, **Y Poirier**, CA Potter, D Schaue, IS Patallo, M Abend, S Swarts, F Trompier, Recommendations for harmonized reporting of radiation dosimetry by adoption of compatibility in irradiation research protocols experts roundtable (CIRPER), Int J Radiat Biol Accepted & in press

 **Peer-reviewed journal articles (submitted & in review)**

1. S Mossahebi, K Byrne, K Jiang, A Gerry, W Deng, C Repetto, IL Jackson, A Sawant, **Y Poirier**, A high-throughput focused collimator for OAR-sparing preclinical proton FLASH studies: Commissioning and validation. Submitted to Phys Med Biol & in review

2. **Y Poirier**, K Byrne, F Therriault-Proulx, K Jiang, W Deng, A Sawant, S Mossahebi, What’s in a FLASH proton beam? Characterizing ultra-high dose rate protons using a novel plastic scintillator, Frontiers in Radiation Oncology, submitted and in review.

3. MA Hill, IS Pallato, AH Aitkenhead, M Bazalova-Carter, R Carter, S Nill, A Nisbet, M Ghita-Pettigrew, **Y Poirier**, K Prise, A Subiel,. G Schettino, The importance and challegnes of dosimetry in conventional preclinical radiation biology research, submitted to BJR and in review.

**Peer-reviewed abstracts/conference proceedings**

1. **Y Poirier**, O Ostapiak, The effects of small cylindrical air cavities on circumferential dose distributions due to small 6 MV photon fields, Med Phys. **36,** 4318 (2009).

2. **Y Poirier**, A Kouznetsov, M Tambasco, Characterization of the parameters defining a kilovoltage source for accurate dose computation, Med Phys **38**, 3411 (2011).

3. **Y Poirier**, A Kouznetsov, M Tambasco, Experimental validation of a novel approach to fast and accurate kilovoltage dose computation, Med Phys **38**, 3728 (2011).

4. C Kirkby, E Ghasroddashti, **Y Poirier**, M Tambasco, R Stewart, Monte Carlo DNA Damage Simulations of kV CBCT, Med Phys **39**(7), 4645 (2012).

5. **Y Poirier**, A Kouznetsov, M Tambasco, Characterizing the spatially varying fluence and spectra of a kV imaging source for dose calculations, Med Phys **39**, 4643 (2012).

6. **Y Poirier**, A Kouznetsov, M Tambasco, Validation of a kV dose computation method for CBCT imaging procedures, Radiother Oncol **106** (Sup. 2), S306-S307 (2013).

7. C Kirkby, E Ghasroddashti, **Y Poirier**, M Tambasco, R Stewart, Monte Carlo simulations of relative DNA Damage from kV CBCT radiation, Med Phys **40**, 319 (2013)

8. M Sommerville, **Y Poirier**, A Kouznetsov, M Tambasco, Using HVL and kVp to portray an x-ray source for dose calculations in CT), Med Phys **40**, 404 (2013).

9. C Johnstone, **Y Poirier**, A Kouznetsov, M Tambasco, Validation of in-house dose calculation software for superficial therapy, Radiother Oncol **108** (Sup. 2), S114 (2013).

10. F Jacso, **Y Poirier**, J Gräfe, I Nygren, R Khan, E Villarreal-Barajas, Orthovoltage dosimetry using ion chambers, Gafchromic EBT3 film and kV dose computations, Radiother Oncol **108** (Sup. 2), S56 (2013).

11. **Y Poirier**, A Kouznetsov, M Tambasco, Experimental validation of a kV dose computation method for CBCT imaging in an anthropomorphic phantom, Radiother Oncol **108** (Sup. 2), S60 (2013).

12. **Y Poirier**, M Sommerville, CD Johnstone, J Grafe, I Nygren, R Khan, JE Villareal-Barajas, F Jacso, M Tambasco, Validation of a general empirically-based beam model for kV x-ray source, Med Phys **41**, 3 (2014).

13. M Sommerville, **Y Poirier**, M Tambasco, Validation of a CT X-ray source characterization technique for dose computation using an anthropomorphic phantom, Med Phys **42**, 3642 (2015).

14. K Nakonechny, M Tran, D Sasaki, J Beck, **Y Poirier**, K Malkoske, Improving inter-linac DMLC IMRT dose precision by fine tuning of MLC leaf calibration, Med Phys **43**, 4949 (2016).

15. **Y Poirier**, S Kuznetsova, E Villareal-Barajas, Characterization of the energy dependence of high-sensitivity MCP-N TLD and Al2O3:C OSLD in-vivo dosimetry systems for 40–100 kVp energies,Med Phys **43**, 4941 (2016).

16. J.P. Voroney, A. Hudson, **Y. Poirier**, D, Spencer, F. Jasco, K. Martell, A practical energy modulation technique to avoid enucleation for advanced periocular cancers, Radiotherapy and Oncology**120**, S61 (2016).

17. S Kuznetsova, **Y Poirier**, JE Villareal-Barajas, Characterization of two high-sensitivity dosimetry systems (MCP-N TLD and nanoDot OSLD) in the low energy X-ray domain, Med Phys **44**, 4390-4391 (2017).

18. **Y Poirier**, K Martell, R Khan, T Zhang, A Hudson, N Wolfe, D Spencer, J-P Voroney, Mixed orthovoltage and electron treatments offer an inexpensive alternative to protons in treating peri-ocular lesions, Med Phys **44**, 3206 (2017).

19. **Y Poirier**, M Bazalova-Carter, C Johnstone, A Anvari, A Sawant, FMEA quality management framework for small animal image-guided radiotherapy based on the TG-100 methodology, Med Phys **44**, 3063 (2017).

20. A Anvari, **Y Poirier**, A Sawant, Robust and quick EPID-based quality assurance procedures for small animal image-guided radiation therapy systems, Med Phys **45**, E601 (2018).

21. A Anvari, **Y Poirier**, A Sawant, EPID dosimetry for kilovoltage x-ray beam in pre-clinical radiation research studies, Med Phys **45**, E601 (2018).

22. S Becker, Y Mutaf, **Y Poirier**, Y Niu, C Yu, B Yi, S Feigenberg, E Nichols, Dosimetric results of the first GammaPod clinical trial, GCC 1202: A 8 Gy Boost to the Lumpectomy Cavity, Med Phys **45**, E168 (2018).

23. S Becker, Y Niu, Y Mutaf, C Yu, **Y Poirier**, S Feigenberg, E Nichols, B Yi, Patient-specific quality assurance for GammaPod: A novel dedicated breast stereotactic radiosurgery device, Med Phys **45**, E591–E592 (2018).

24. E Draeger, A Sawant, I-L Jackson, Z Vujaskovic, **Y Poirier**, A review of the current state of physics and dosimetry reporting in radiation biology research, Radiother & Oncology 129 Supplement 1, S33 (2018).

25. C Kirkby, C Johnstone, **Y Poirier**, Effect of thin x-ray filter design in modern image-guided small animal irradiators on x-ray dosimetry and radiation biological effectiveness, Radiother & Oncology 129 Supplement 1, S45 (2018).

26. E Draeger, A Sawant, C Johnstone, B Koger, S Becker, I-L Jackson, Z Vujaskovic, **Y Poirier**, Two Decades of Physics and Dosimetry Reporting in Radiobiological Studies: A Potential Factor of the Reproducibility Crisis, Med Phys **46**(6), E175 (2019).

27. S Chen, B Agyepong, **Y Poirier**, N Lamichhane, S Becker, B Zhang, A Gopal, E Nichols, P Mohindra, B Yi, J Molitoris, M Mishra, Optimization of Image Guidance Clinical Workflow for Frameless Linac-Based Stereotactic Radiosurgery (SRS) Using Three Dimensional Surface Imaging Monitoring System, Med Phys **46**(6), E102 (2019).

28. R McCaroll, P Sabouri, N Lamichhane, **Y Poirier**, B Yi, S Chen, M Guerrero, Commissioning of Mobius3D for Linac-Based SRS and Determination of the Dosimetric-Leaf-Gap, Med Phys **46**(6), E612 (2019).

29. S Chen, B Agyepong, **Y Poirier**, N Lamichhane, S Becker, B Zhang, A Gopal, B Yi, P Mohindra, E Nichols, J Molitoris, M Mishra, Commissioning of Mobius3D for Linac-Based SRS and Determination of the Dosimetric-Leaf-Gap, Int J Radiat Onc Biol Phys, **105**(1S) E759 (2019).

30. E Kowalski, J Remick, R Khairnar, E Morse, **Y Poirier**, N Lamichhane, S Becker, M Mishra, Immune Checkpoint Inhibition and the Risk of Radionecrosis in Patients Treated with SRS for Brain Metastases, Int J Radiat Onc Biol Phys **105**(1S), E113 (2019).

31. J Remick, E Kowalski, R Khairnar, E Morse, E Khairnar, **Y Poirier**, N Lamichhane, S Becker, S Chen, A Patel, E Nichols, P Mohindra, Y Kwok, M Mishra, A comparison of single-fraction versus multiple-fraction stereotactic radiosurgery in the treatment of brain metastasis: A multicenter Analysis, Int J Radiat Onc Biol Phys **105**(1S), E88 (2019).

32**. Y Poirier**, The Potential of Automated QA in Radiation Biology Using Comprehensive EPID-Based QA Tools for Image-Guided Small Animal Irradiators, Med Phys **47**(6), e349 (2020).

33. **Y Poirier**, A Anvari, R Nilsson, A Gerry, CD Johnstone, A Sawant, Commissioning of an Xstrahl SARRP in the µ-RayStation Treatment Planning System, Med Phys **47**(6), e722 (2020).

34. **Y Poirier**, S Becker, S Mossahebi, N Lamichhane, A Sawant, Alara in a Flash – Radiation shielding and safety implications following linac conversion to an electron FLASH-RT unit, Med Phys **47**(6), e575 (2020).

35. S Samanta, P Damron, **Y Poirier**, S Mao, N Lamichhane, S Dahiya, J Yared, A Rapoport, N Hardy, J Molitoris, A Kaiser, B Yi, P Mohindra, Dose to lungs and kidneys during total body irradiation: Are we delivering the expected dose?, Int J Radiat Oncol Biol Phys **108**(2) E61–62 (2020). *\*Developed the technique to calculate the expected radiation dose through the treatment planning system necessary to perform the study.*

36. GS Alexander, JS Remick, E Kowalski, K Sun, **Y Poirier**, J Stewart, N Lamichhane, H Eisenberg, RG Slawson, GF Woodworth, WF Regine, MV Mishra, GammaKnife versus linac-based stereotactic radiosurgery for the treatment of brain metastases: Clinical outcomes and toxicity analysis, Int J Radiat Oncol Biol Phys **108**(2), E705–706 (2020*).\*Developed the clinical treatment plans*

37. F Carrier, P Parekh, E Solano-Gonzalez, X Ma, K Tighe, A Casildo, A Zodda, C Johnstone, **Y Poirier**, J Mahmood, K Bhalla, S Li, RG Lapidus, Investigating chemopotentiation by Low Dose Fractionated Radiation Therapy for Disseminated Intra-abdominal Gastric Cancer, J Clin Oncol **39**(3 Sup), 242 (2021).

38. **Y Poirier**, S Mossahebi, J Xu, S Becker, A Sawant, Linac conversion to FLASH-RT: Shielding, Dosimetry, and Experimental Design, Med Phys **48**(8), 4696 (2021).

39. **Y Poirier**, J Xu, A Ahmady, H Zhang, F Therriault-Proulx, A Sawant,Characterization of a Novel Plastic Scintillator for Instant Real-Time Dosimetry in Electron FLASH-RT, Med Phys **48**(8), 4666 (2021).

40. **Y Poirier**, A Anvari, R Nilsson, A Sawant, Commissioning of Xstrahl SARRP in the µ-RayStation Treatment Planning System and comparison with MuriPlan, Med Phys **48**(8) 4680 (2021).

41. S Mossahebi, **Y Poirier**, A Gerry, C Repetto, Z Vujaskovic, I-L Jackson, A Sawant, Novel Collimator for High-Throughput Proton FLASH-RT Murine Hemithorax Irradiations, Med Phys **48**(6), 429 (2021).

42. J Xu, **Y Poirier**,A Sawant,Precise Pulse Delivery Control Using Monitor Units in Electron FLASH-RT, Med Phys **48**(6), 517 (2021).

43. **Y Poirier**, J Xu, A Ahmady, S Mossahebi, H Zang, F Therriault-Proulx, A Sawant,Novel Plastic Scintillator for Online Dosimetry in Electron FLASH-RT, Med Phys **48**(6), 63 (2021).

44. **Y Poirier**, S Becker, S Mossahebi, N Lamichhane, A Sawant, Radiation Protection and safety implications from bremsstrahlung contamination in linear accelerators converted to FLASH-RT, Physica Medica **94**, S107 (2022).

45. S Mossahebi, Y Poirier, A Gerry, C Repetto, Z Vujaskovic, I Jackson, A Sawant, FLASH in the Clinic Track (Oral Presentations): Dosimetric Evaluation of a novel collimator design for concurrent murine hemithorax irradiations using proton FLASH-RT, Physica Medica **94** S154, (2022). https://doi.org/10.1016/S1120-1797(22)01554-X

46. K Byrne, A Gerry, J Xu, **Y Poirier**, A Sawant, I-L Jackson, K Jiang, A Platform for Murine Whole Thoracic Lung Irradiation with Electron FLASH Radiotherapy at Variable Dose Rates, Med Phys **49**(6), e454 (2022).

47. S Becker, K Stump, W Culberson, **Y Poirier**, H Zhang, M Guerrero, BY Yi, E Nichols,3D Printed ABS Breast Phantom for GammaPod, Med Phys **49**(6), e953 (2022).

48. N Chabaytah, J Babik, B Behmand, R Ruo, T Connell, **Y Poirier**, M Evans, SA Enger, Characterization of the Relative Biological Effectiveness of a Range of Photon Energies for Irradiation of HeLa and PC-3 Cell Lines, Med Phys **49**(6), e980 (2022).

49. J Xu, **Y Poirier**, A Sawant, Precise pulse delivery control using monitor units in electron Flash-RT, to be published in a “renowned journal” following the FRPT conference in Barcelona, Spain, Dec 2022

50. S Mossahebi, **Y Poirier**, C Repetto, K Jiang, K Byrne, A Gerry, I-L Jackson, A Sawant, Novel high-throughput collimator for proton flash-RT studies- proof of concept and in-vivo evaluation of murine hemithorax irradiations, to be published in a “renowned journal” following the FRPT conference in Barcelona, Spain, Dec 2022

51. H Zhang, H Xu, J Xu, **Y Poirier**, S Zhou, B Yi, S Chen, B Zhang, Robustness Analysis of HyperArc VMAT Plans for stereotactic radiosurgery patients with Multiple Brain Metastases, Med Phys **50**(6), e128 (2023).

52. K Jiang, K Byrne, **Y Poirier**, S Mossahebi, A Sawant, A high-throughput collimator for murine subcutaneous tumor model irradiation with electron flash radiotherapy, Med Phys **50**(6), e298 (2023).

53. S Mossahebi, K Byrne, K Jiang, F Therriault-Proulx, A Sawant, **Y Poirier**, Direct dose rate measurements of ultra-high dose rate proton beams inn the Bragg peak show the Bragg peak may undermine the FLASH effect, Med Phys **50**(6), e305 (2023).

54. W Deng, D Han, K Byrne, K Jiang, S Mossahebi, B Bhandary, H Shukla, **Y Poirier**, J Xu, A Sawant, Achieving sub 1-mm accuracy in proton FLASH studies using a stand-alone small animal image-guided irradiator, Med Phys **50**(6), e760 (2023).

55. J Ding, J Xu, AV Slyke, M Mashayekhi, J Jiang, M MacFarlane, **Y Poirier**, N Lamichhane, M Mishra, S Chen, Retrospective Analysis of Patient-Specific Quality Assurance of SRS Plans, Med Phys **50**(6), e803 (2023).

56. **Y Poirier**, R Amos, R Dal Bello, K Gallagher, S mossahebi, K Oh, L Praestegaard, F Rutar, W Smith, S Tanadi-Lang, J Xu, S Zhou, Consensus recommendations from the FlashForwardTM consortium e-FLASH radiation safety working group, to be published in the FRPT 2023 Focus issue following the FRPT conference in Toronto, 2023.

**Major Invited Speeches**

Local

1. **Y Poirier**, A Kouznetsov, M Tambasco, Imaging dose in daily image-guided radiation therapy,Alberta Imaging Symposium, Calgary, 2013

2. **Y Poirier**, An x-ray source model and characterization method for computing kV radiation dose, Tom Baker Cancer Centre Grand Rounds, Calgary, 2013

3. E Draeger, A Sawant, I-L Jackson, Z Vujaskovic, **Y Poirier**, A review of the current state of physics and dosimetry reporting in radiation biology research, Visiting Professor, McGill University, Montreal, 2019

4. E Draeger, A Sawant, I-L Jackson, Z Vujaskovic, **Y Poirier**, Two Decades of Physics and Dosimetry Reporting in Radiobiological Studies: A Potential Factor of the Reproducibility Crisis, Visiting Professor, San Diego State University, CA, 2019

5. E Draeger, A Sawant, I-L Jackson, Z Vujaskovic, **Y Poirier**, Two Decades of Physics and Dosimetry Reporting in Radiobiological Studies: A Potential Factor of the Reproducibility Crisis, Visiting Professor, University of California San Diego, CA, 2019

6. **Y Poirier**, Practical considerations of converting a linac to FLASH-RT: Shielding, Dosimetry, and Experimental Design, Visiting Professor, Princess Margaret Hospital, Toronto, 2020

7. **Y Poirier**, Practical considerations of converting a linac to FLASH-RT: Shielding, Dosimetry, and Experimental Design,Medical Physics Seminar, University of Montreal, Canada, 2021

8. **Y Poirier**, Bringing precision radiation therapy to pre-clinical models for improved translational research, Medical Physics Seminar, Yale University, New Haven CT, 2023

National

8. **Y Poirier**, Radiation Measurements, Detections and Calibrations, UMSOM Physics and RadioBiology Review Course, Baltimore, MD, 2017

9. **Y Poirier***,* Radiation Measurements, Detections and Calibrations, UMSOM Physics and RadioBiology Review Course, Baltimore, MD, 2018

10. E Draeger, A Sawant, I-L Jackson, Z Vujaskovic, **Y Poirier**, The current state of radiation biology physics and dosimetry reporting,Presented at the Council of Ionizing Radiation Measurement Standards (CIRMS) hosted by the National Institute of Standards and Technology (NIST),Gaithersburg, MD, 2018

11. **Y Poirier**, Radiation Measurements, Detections and Calibrations and Radiation Producing Machines, UMSOM Karl Prado Physics and RadioBiology Review Course, Baltimore, MD, 2019

12. **Y Poirier***,* A review of kV Orthovoltage X-ray Irradiators, Health Physics Society, Capital Harbor, MD, 2020

13. **Y Poirier**, Transitioning from Gamma Rays to Xrays for Comparable Biomedical Research Irradiations: Energy Matters, Radiation Nuclear Group meetings subject matter expert, National Institute of Health (NIH), Bethesda, MD, 2021

14. **Y Poirier**, Radiation Measurements, Detections and Calibrations and Radiation Producing Machines, UMSOM Karl Prado Physics and RadioBiology Review Course, Baltimore, MD, 2021

15. **Y Poirier**, Radiation Measurements, Detections and Calibrations and Radiation Producing Machines, UMSOM Karl Prado Physics and RadioBiology Review Course, Baltimore, MD, 2022

16. **Y Poirier**, Radiation shielding and safety implications following linac conversion to an electron FLASH‐RT unit, FlashForwardTM Consortium e-FLASH Speakers Series, virtual webinar, 2022

17. **Y Poirier**, Methodological Reporting: Trends and Challenges, Compatibility of Irradiation Research Protocols Expert Roundtable (CIRPER), Waikoloa, Hawaii, 2022

18. **Y Poirier**, Perspectives on Reporting of Dosimetry in the Published Literature**,** NIAID-IRSN Dosimetry Exchange meeting, National Institute of Allergy and Infectious Diseases (NIAID), Rockville, MD, 2023

19. **Y Poirier**, Radiation Measurements, Detections and Calibrations and Radiation Producing Machines, UMSOM Karl Prado Physics and RadioBiology Review Course, Baltimore, MD, 2023

1. **Y Poirier**, Potential uses of DNA chip detectors in FLASH applications and beyond, invited presentation at “FLASH therapy delivery, motion management and dosimetry” AAPM Symposium delivered at the 2023 AAPM Annual Scientific Meeting in Houston, TX.
2. **Y Poirier**, eFLASH Working Group and Research Updates – Electron FLASH Radiation Safety Working Group, FlashForwardTM Consortium e-FLASH Speakers Series, virtual webinar, Sept 2023
3. **Y Poirier**, FLASH dosimetry and DNA-based dosimetry, symposium given at NIST, virtual, Nov 2023
4. **Y Poirier**, The impact of spatial and temporal dose distributions on achieving the FLASH effect for scanning proton beams, Presented at the Council of Ionizing Radiation Measurement Standards (CIRMS) hosted by the National Institute of Standards and Technology (NIST),Gaithersburg, MD, 2024.

International

1. **Y Poirier**, Practical considerations in commissioning an XRAD-320 cabinet biological irradiator and designing robust biological experiments, Experimental Radiobiology: Physics meets Biology and Medicine Workshop, Heidelberg Centre of Latin America, Santiago, Chile, 2020
2. **Y Poirier**, Modeling kilovoltage x-ray sources for computational dose simulations and validation using EPID dosimetry, Experimental Radiobiology: Physics meets Biology and Medicine Workshop, Heidelberg Centre of Latin America, Santiago, Chile, 2020.
3. **Y Poirier**, The Potential of Automated QA in Radiation Biology Using Comprehensive EPID-Based QA Tools for Image-Guided Small Animal Irradiators, SAM Workshop Talk at joint COMP-AAPM virtual scientific meeting, virtual, 2020
4. **Y Poirier**, Translational challenges of FLASH for proton and electron radiotherapy, COMP Annual Scientific Meeting, Quebec City, Canada, 2022
5. **Y Poirier**, Update on the activities of the AAPM Task Group 319, Compatibility of Irradiation Research Protocols Expert Roundtable II (CIRPER II), Montreal, Canada, 2023

**Proffered Communications***(presenting author – excluding published abstracts)*

International

1. **Y Poirier**, A Kouznetsov, M Tambasco, Validation of a kV dose computation method for CBCT imaging procedures, (Poster), ESTRO 2nd Forum scientific meeting in Geneva, Switzerland, 2013

2. **Y Poirier**, D Sasaki, D Courtney, M Akra, Dosimetric comparison between RapidArc and 3D-CRT planning in extremity soft tissue sarcoma, (Poster), 2015 COMP/World Congress scientific meeting, Toronto, Canada, 2015

3. **Y Poirier**,S Kouznetsova, E Villareal-Barajas, Energy Sensitivity of Al2O3:C OSLDs and MCP-N TLDs at 40–300 kVp ranges, (Oral), Xstrahl SARRP Symposium, Philadelphia, PA, 2017

4. **Y Poirier**, K Prado, C Prado, I-L Jackson, Z Vujaskovic, Implementation of a new technique for total body irradiation in rabbits, (Poster), Radiation Research Society Annual Scientific Meeting Cancun, Mexico, 2017

5. C Kirkby, C Johnstone, **Y Poirier**, Dosimetric consequences of the use of thin filters in modern image-guided small animal irradiators, (Oral), Fourth Conference on small animal precision image-guided radiotherapy, Lisbon, Portugal, 2018

6. A Anvari, **Y Poirier**, A Sawant, Investigating the use of the portal imager as a quality assurance tool for the small animal radiation research platform (SARRP), (Oral), Fourth Conference on small animal precision image-guided radiotherapy in Lisbon, Portugal, 2018

7. E Draeger, A Sawant, I-L Jackson, **Y Poirier**, A review of the current state of physics and dosimetry reporting in radiation biology research, (Poster), Radiation Research Society, Chicago, IL, 2018

8. C Kirkby, C Johnstone, **Y Poirier**, Effect of thin x-ray filter design in modern image-guided small animal irradiators on x-ray dosimetry and radiation biological effectiveness, (Poster), Radiation Research Society, Chicago, IL, 2018

9. A Anvari, **Y Poirier**,A Sawant,Development and validation of comprehensive EPID-based QA tools for the SARRP, (Oral), Xstrahl User Workshop preceding the International Congress of Radiation Research meeting, Manchester, UK, 2019

10. E Draeger, A Sawant, C Johnstone, B Koger, S Becker, I-L Jackson, Z Vujaskovic, **Y Poirier**, A Dose of Reality: How 20 years of incomplete physics reporting may have contributed towards poor reproducibility in radiobiology studies, (Poster), International Congress of Radiation Research meeting, Manchester, UK, 2019

11. **Y Poirier**, S Mossahebi, A Gerry, C Repeto, I-L Jackson, A Sawant,A novel collimator necessary for organ-sparing high-throughput proton FLASH-RT murine hemithorax irradiations, (Poster), Radiation Research Society meeting, San Juan, Puerto Rico, 2021

12. S Mossahebi, K Jiang, K Byrne, A Gerry, W Deng, C Repetto, Z Vujaskovic, I-L Jackson, A Sawant, **Y Poirier,** A high throughput mice collimator for FLASH proton studies: Comparisons with SARRP delivery, (Oral), Xstrahl User’s meeting, Philadelphia, PA, 2023

13. **Y Poirier**, Review of recent efforts towards dosimetry standardization in radiation biology studies, (Oral), Xstrahl User’s meeting, Philadelphia, PA, 2023

14. S Mossahebi, K Byrne, F Therriault-Proulx, A Sawant, **Y Poirier**, Influence of the Bragg peak on average vs instantaneous dose rate for proton FLASH biological studies, (poster), International Congress of Radiation Research meeting, Montreal, Canada, 2023

15. B Koger, S Becker, **Y Poirier**, Radiation safety in e-FLASH converted linear accelerators: pitfalls and perils (poster), International Congress of Radiation Research meeting, Montreal, Canada, 2023

Regional

14. **Y Poirier**, J Hahn, A possible origin of the high-inclination population of the Kuiper Belt, (Oral), ACFAS-FESR Annual Regional Conference, Moncton, N-B, 2007

15. **Y Poirier**, A Kouznetsov, M Tambasco, Sensitivity analysis of the influence of beam quality on the accuracy of dose computation for kVp imaging x-rays, (Poster), Annual Banff Cancer Conference, Banff, AB, 2010

16. **Y Poirier**, A Kouznetsov, M Tambasco, Characterization of a kV imaging source for patient-specific dose computation, (Oral), Annual WESCAN scientific meeting, Abbotsford, BC, 2011

17. **Y Poirier**, A Kouznetsov, M Tambasco, Experimental validation of a kilovoltage X-ray dose computing method for cone-beam CT imaging, (Poster), Annual Banff Cancer Conference, Banff, AB, 2012.

18. S Mossahebi, K Byrne, K Jiang, A Sawant, **Y Poirier**, The Bragg peak may undermine the FLASH effect: Results from a novel plastic scintillator, (Oral), University of Maryland Radiation Oncology Research Symposium, Baltimore, MD, 2023