

APPENDIX X.

PUBLISHED ABSTRACTS

by members of the Medical Physics Unit : 2020 calendar year (x 44)

(names of MPU staff members are underlined, students are indicated by †, presenter indicated by *)

1. A. Ensworth†, V. Fortier†, I.R. Levesque, *A comparison of locally and publicly implemented QSM pre-processing techniques*, 12th Scientific Day of the Québec Bio-imaging network (QBIN/RBIO), Montréal, Quebec, February 7, 2020, T1-02, poster.
2. D. Patel†, Z. Ahmed†, I.R. Levesque, *Pattern recognition algorithms to study tumour perfusion using dynamic contrast-enhanced MRI*, 12th Scientific Day of the Québec Bio-imaging network (QBIN/RBIO), Montréal, Quebec, February 7, 2020, T1-04, poster.
3. V. Fortier†, I.R. Levesque, *T₁ relaxation in fat and its dependence on fat content*, 12th Scientific Day of the Québec Bio-imaging network (QBIN/RBIO), Montréal, Quebec, February 7, 2020, T1-18, poster.
4. L. Carroll†, S.A. Enger, *Design and simulation of a positron detector to measure the AIF for dynamic PET*, 12th Scientific Day of the Québec Bio-imaging network (QBIN/RBIO), Montréal, Quebec, February 7, 2020, T1-08.
5. A. Kolokotronis†, D. Coopert†, V. Fortier†, J. Capobianco, J. Seuntjens, I.R. Levesque, *Magnetic resonance imaging characteristics of novel lanthanide-based theranostic nanoparticles*, 12th Scientific Day of the Québec Bio-imaging network (QBIN/RBIO), Montréal, Quebec, February 7, 2020, T2-01, poster.
6. V.J. Heng†, A. Diamant†, A. Chatterjee, S. Fariz, H. Bahig, E. Filion, R. Doucet, I. El Naqa, J. Seuntjens, *Impact of the dose outside the PTV on distant recurrence in coplanar and non-coplanar lung SBRT*, ESTRO 39th Annual Meeting 2020: Translating research and partnership into optimal health, Vienna, Austria, April 3-7, 2020, poster PO-0995; J. Eur. Soc. Radiother. Oncol. **145**(1) S576 (2020).
7. N. Tomic, J. Seuntjens, S. Devic, *Relative dose measurements in diagnostic radiology beams using the XR-QA2 GafChromic™ film Model*, ESTRO 39th Annual Meeting 2020: Translating research and partnership into optimal health, Vienna, Austria, April 3-7, 2020, poster PO-1308; J. Eur. Soc. Radiother. Oncol. **145**(1) S738 (2020).
8. S. Devic, N.Tomic, S. Aldelaijan†, J. Seuntjens, B. Moftah, *Impact of document scanner resolution on raw signal noise in radiochromic film dosimetry*, ESTRO 39th Annual Meeting 2020: Translating research and partnership into optimal health, Vienna, Austria, April 3-7, 2020, poster PO-1318; J. Eur. Soc. Radiother. Oncol. **145**(1) S743 (2020).
9. A. Travers, M. Vallières†, J. Van Soest, L. Wee, O. Morin, A. Dekker, *Publishing linked and FAIR radiomics data in radiation oncology via ontologies and Semantic Web*, ESTRO 39th Annual Meeting 2020: Translating research and partnership into optimal health, Vienna, Austria, April 3-7, 2020, poster PO-1531; J. Eur. Soc. Radiother. Oncol. **145**(1) S876 (2020).
10. L. Weishaupt†, J. Torres, S. Camilleri-Broet, S. Côté-Maldonado†, S.A. Enger, *Classification and segmentation of tumor cells and nuclei on biopsy slides using deep learning for microdosimetry applications*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, presentation BReP-SNAP-M-36; Med. Phys. **47**(6), e413 (2020).
11. A. Andrade†*, G. Shenouda, J. Kildea, *Exploration of potential parameters that influence when to replan head and neck cancer patients*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, presentation BReP-SNAP-M-71; Med. Phys. **47**(6), e422 (2020).
12. G. Famulari†*, K. Sultanem, M. Duclos, S.A. Enger, *169Yb-based intensity modulated brachytherapy for head & neck cancers*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, presentation BReP-SNAP-T-1*; Med. Phys. **47**(6), e444 (2020).
13. M. Morcos†, T. Vuong, S.A. Enger, *Reducing dose to uninvolved rectum with dynamic shield intensity modulated brachytherapy*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, presentation BReP-SNAP-T-144; Med. Phys. **47**(6), e481 (2020).
14. F. Keszti†*, B. Côté†, J. Bancheri†, A. Sarfehnia, J. Seuntjens, J. Renaud, *Development of a quasi-adiabatic miniature graphite calorimeter for absolute clinical dosimetry of high-energy photon beams*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, presentation MO-CD-TRACK 1-8; Med. Phys. **47**(6), e287 (2020).
15. D. Patel†*, Z. Ahmed†, I.R. Levesque, *Using pattern recognition to assess tumour perfusion in high grade soft tissue sarcoma*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-I-225*; Med. Phys. **47**(6), e561 (2020).
16. A. Chatterjee†*, M. Vallières†, J. Seuntjens, R. Forghani, *Advantages of spectral energy CT data for deep learning applications*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-M-47; Med. Phys. **47**(6), e575 (2020).

17. A. Chatterjee⁺, H. Woodruff, M. Lobbes, Y. van Wijk, M. Beuque, J. Seuntjens, P. Lambin, *Effectiveness of simple data imputation for missing feature values in binary classification*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-M-181; Med. Phys. **47**(6), e609 (2020).
18. P.G. Watson^{*}, E. Poon, *Investigation of partial-arc CBCT protocols for imaging extremities*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-M-273; Med. Phys. **47**(6), e632 (2020).
19. H. Naseri⁺, J. Kildea, *The feasibility of using radiomics to detect T-spine lytic bone metastases in simulation-CT images*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-M-398; Med. Phys. **47**(6), e664 (2020).
20. M. Chetvertkov⁺, J. Monroe, K. Boparai, T. Solberg, D. Pafundi, R. Luo, D. Gladstone, F. Yin, I. Cheety, S. Benedict, D. Followill, Y. Xiao, S. John, *Survey on practice and technology use in SRT and SBRT delivery*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-P-77; Med. Phys. **47**(6), e501 (2020).
21. L. Montgomery⁺, A. Landry, C.M. Lund[†], J. Kildea, *Estimation of neutron RBE for mutagenesis by simulating clustered DNA damage*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-38; Med. Phys. **47**(6), e767 (2020).
22. B. Behmand[†], Y. Kamio, M.D.C. Evans, S.A. Enger, *Correlation between radiation-induced foci and tumor nuclei size distribution*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-247; Med. Phys. **47**(6), e733 (2020).
23. V. Turgeon⁺, B. Bahoric, M. Morcost[†], S.A. Enger, *Dosimetric impact of TG43 formalism versus Monte Carlo in HDR breast cancer brachytherapy*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-347; Med. Phys. **47**(6), e757 (2020).
24. F. Mathew⁺, G. Almakdessi[†], L. Montgomery[†], J. Kildea, *The impact of treatment parameter variation on secondary neutron spectra in high-energy radiotherapy with electron beams*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-531; Med. Phys. **47**(6), e802 (2020).
25. V.J. Heng⁺, M-A. Renaud[†], M. Serban, J. Seuntjens, *Mixed electron-photon radiation therapy delivery and quality assurance*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-580; Med. Phys. **47**(6), e814 (2020).
26. J. Bancheri⁺, S. Ketelhut, L. Bueermann, J. Seuntjens, *Monte Carlo and water calorimeter determination of ionization chamber correction factors for medium energy x-ray beams*, Joint AAPM/COMP Meeting, July 12-16, 2020, VIRTUAL, poster PO-GeP-T-588; Med. Phys. **47**(6), e816 (2020).
27. D. Aramburu Nunez^{*}, M. Antaki[†], M. Morcost[†], S. Huang, S.A. Enger, C. Barker, A. Damato, G. Cohen, *Pre-clinical assessment of HDR eye plaque treatment using a Monte Carlo-based treatment planning system*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-648; Med. Phys. **47**(6), e830 (2020).
28. L.H. Liang^{*}, N. Tomic, S. Devic, F. Piccolo, L. Kelley, T. Furtado, T. Vuong, *Radiochromic film-based dosimetry of novel rectal electronic-brachytherapy applicator*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-687; Med. Phys. **47**(6), e840 (2020).
29. H. Patrick⁺, L. Souhami, J. Kildea, *Reduction of interobserver contouring variations through a retrospective, evidence-based intervention*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-700; Med. Phys. **47**(6), e843 (2020).
30. E. Sepulveda⁺, H. Patrick[†], J. Kildea, *Standardization of CSI treatment planning and its evaluation using a DVH registry*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-736; Med. Phys. **47**(6), e852 (2020).
31. Y. Zlateva⁺, B. Muir, I. El Naqa, J. Seuntjens, *Step-size dependence of Monte Carlo simulations for Cherenkov emission (CE)-based dosimetry calculations*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, poster PO-GeP-T-738; Med. Phys. **47**(6), e852 (2020).
32. S. Aldelaijan⁺, S. Devic, H. Bekerat, P. Papaconstadopoulos, J. Schneider[†], J. Seuntjens, R. Cormack, I. Buzurovic, *Implementation of a novel HDR sources tracking model for source quality assurance using radiochromic film dosimetry*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, presentation TH-A-TRACK 3-3; Med. Phys. **47**(6), e366 (2020).
33. S. Aldelaijan⁺, Y. Khouj, M. Khosravi, T. Harris, D. O'Farrell, M. Jacobson, J. Seuntjens, S. Devic, I. Buzurovic, *Quantitative analysis and quality assurance (QA) of gynecological brachytherapy applicators using radiochromic film dosimetry*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, presentation TH-A-TRACK 3-3; Med. Phys. **47**(6), e838 (2020).
34. M. Morcost[†], A. Viswanathan, S.A. Enger, *A novel minimally invasive dynamic shield system for cervix brachytherapy*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, presentation TU-C-TRACK3-1; Med. Phys. **47**(6), e317 (2020).
35. J.J.W. Yeot⁺, R. Li, Y.C. Wang, N. Ybarra, J. Kildea, I. Ragoussis, *An examination of the mutational signature of x-ray irradiation using single-cell whole genome sequencing*, Joint AAPM/COMP Meeting, VIRTUAL, July 12-16, 2020, presentation WE-D-TRACK 3-3; Med. Phys. **47**(6), e353 (2020).

36. J. Stosky, M. Araujo, F. Cury, I.R. Levesque, C.R. Freeman, *Implementation of MRI simulation in extremity soft tissue sarcoma*, Annual meeting of Canadian Association of Radiation Oncology (CARO-ACRO), VIRTUAL, September 23-25, 2020, poster.
37. T. Lefebvre^{†*}, L. Petitclerc, L. Bilodeau, G. Sebastiani, J.M. Giard, M.R. Sylvestre, B.N. Bguyen, G. Gilbert, G. Cloutier, A. Tang, *Prospective comparison of MR elastoplasty with MRI cine-tagging of cardiac-induced motion for non-invasive staging of liver fibrosis*, Proc. 28th Scientific Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Sydney, Australia, August 08-14, 2020. #309.
38. V. Fortier[†], I.R. Levesque, *Fat DESPOT for MR-oximetry validated by STEAM MRS*, Proc. 28th Scientific Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Sydney, Australia, August 08-14, 2020, p. 3149, poster.
39. V. Fortier[†], I.R. Levesque, *T₁ relaxation in fat and its dependence on fat content*, Proc. 28th Scientific Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Sydney, Australia, August 08-14, 2020, p. 3150, poster.
40. S. Xing[†], I.R. Levesque, *Detecting the evolving tumor microenvironment with diffusion microstructure modeling: A simulation study*, Proc. 28th Scientific Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Sydney, Australia, August 08-14, 2020, p. 4411, poster.
41. R. Faria, S. Lambeert, Z. Rosberger, J. Kildea, T. Hijal, J. McClusker, L. Hendren, M. Magalhaes, *Facilitating comprehensive, person-centered, and evidence-based real time symptom management in cancer care across Quebec with mobile technology: The eimpaqc project*, *Psycho-Oncology* **29**, 88 (2020).
42. M. Serban, A. De Leeuw, K. Tanderup, I. Jurgenliemk-Schulz, *Vaginal dose surface maps and morbidity in cervical cancer brachytherapy*, *Int. J. Radiat. Onc. Biol. Phys.* **108**(3) Suppl., E456-E457 (2020), poster doi: <https://doi.org/10.1016/j.ijrobp.2020.07.2570>.
43. A. Chatterjee[†], H Woodruff, M. Lobbes, J. Seuntjens et al, *Altering the decision threshold as a simple and effective method for machine learning-based classification of imbalanced radiation oncology data*, *Int. J. Radiat. Onc. Biol. Phys.* **108**(3) Suppl. E332 (2020), poster presentation, doi: <https://doi.org/10.1016/j.ijrobp.2020.07.793>.
44. J.T. Dana, T. Lefebvre[†], P. Savadjiev, S. Bodard, O. Helenon, C. Reinhold, *Complex cystic renal lesions: CT imaging-based radiomics model for preoperative malignancy risk stratification in comparison with Bosniak classification*, 106th Annual Meeting of the Radiological Society of North America (RSNA), VIRTUAL, November 29-December 05, 2020. #20005433.