

APPENDIX XII.

CONFERENCE & SEMINAR PRESENTATIONS

by members of the Medical Physics Unit : 2021 calendar year (x66)

(in multiple author entries, presenter is indicated by an asterisk *)

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

(list may be revised at a later date)

1. Y. Zou†*, M. Lecavalier-Barsoum, S.A. Enger, *Treatment outcome prediction for gynecological cancer patients with a machine learning model using pre/post diagnostic image modalities and digital histopathology images*, AI for Optimising Radiotherapy Outcomes Workshop, CRUK RadNet Manchester, Virtual Meeting, February 10, 2021. [Oral presentation](#).
2. F. Mathew†*, J. Yeot†, L. Galarneau, N. Ybarra, Y.C. Wang, P. Tonin, I. Ragoussis, J. Kildea, *Single-cell DNA sequencing as a means to directly examine the size and frequency of radiation-induced mutations: An exploratory study*, Fonds de la recherche en santé du Québec (FRSQ) Cancer Research Network, TFRI & QCC Joint Symposium, February 15-16, 2021. Poster presentation.
3. L. Montgomery†*, C.M. Lund†, A. Landry, J. Kildea, *Modeling the carcinogenic effects of neutron radiation by simulating clustered DNA damage*, Fonds de la recherche en santé du Québec (FRSQ) Cancer Research Network, TFRI & QCC Joint Symposium, February 15-16, 2021. Poster presentation.
4. F. Mathew†*, J. Yeot†, L. Galarneau, N. Ybarra, Y.C. Wang, P. Tonin, I. Ragoussis, J. Kildea, *Single-cell DNA sequencing as a means to directly examine the size and frequency of radiation-induced mutations: An exploratory study*, American Association for Cancer Research (AACR) Special Conference on Radiation Science & Medicine, Virtual Meeting, March 02-03, 2021. Poster presentation.
5. F. Mathew†*, C. Chilian, L. Montgomery†, J. Kildea, *Validating current-mode operation of the Nested Neutron Spectrometer under high neutron fluence-rates in radiation therapy using a novel passive system with gold foils*, Annual Meeting of the Council on Ionizing Radiation Measurements (CIRMS), Virtual Meeting, April 26-27, 2021. Oral presentation.
6. D.S. Ayala Alvarez†*, P.G.F. Watson, M. Popovic, V.J. Heng†, M.D.C. Evans, J. Seuntjens, *Brachytherapy TG-43 dosimetry characterization of the INTRABEAM source*, World Congress of Brachytherapy, May 06-08, 2021, Virtual Meeting.
7. B. Behmand, M.D.C. Evans, Y. Kamio, S.A. Enger, *Correlation between radiation-induced foci from 192Ir brachytherapy and tumor nuclei size*, World Congress of Brachytherapy, May 06-08, 2021, Virtual Meeting.
8. A. Thibodeau-Antonacci†*, T. Vuong, H. Bekerat, L. Liang, S.A. Enger, *Development of a dynamic-shielding intensity-modulated brachytherapy applicator for the treatment of rectal cancer*, World Congress of Brachytherapy, May 06-08, 2021, Virtual Meeting. Oral presentation.
9. B. Morén, A.C. Tedgren, T. Larsson, S.A. Enger, G. Famulari†, M. Morcost†, M. Antaki†, *Robust optimization to mitigate rotational uncertainty effects in intensity modulated brachytherapy*, World Congress of Brachytherapy, May 06-08, 2021, Virtual Meeting. Oral presentation.
10. J. Lavoie†, C. Ménard, G. Famulari†, D. Béliveau-Nadeau, S.A. Enger, *Focal treatment of prostate cancer with 169Yb-based high dose rate intensity modulated brachytherapy*, World Congress of Brachytherapy, May 06-08, 2021, Virtual Meeting. Poster presentation.
11. M. Antaki†, M-A. Renaud, J. Seuntjens, S.A. Enger, *Applying column generation to the intensity-modulated high-dose-rate brachytherapy inverse planning*, World Congress of Brachytherapy, May 06-08, 2021, Virtual Meeting. Oral presentation.
12. A. Ensworth, V. Fortiert†, J. Campos Pazmino, I.R. Levesque, *Robust spatial and temporal unwrapping for accurate Quantitative Susceptibility Mapping*, Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Virtual Conference & Exhibition, May 15-20, 2021. Poster, p. 3550.
13. F. Moustafavi, L. Cui, B. Berryman, I.R. Levesque, E.J. McWalter, *Quantitative magnetization transfer in the knee meniscus: Minimizing data collection protocols*, Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Virtual Conference & Exhibition, May 15-20, 2021. Poster #989.

14. K.D. Olsen, L. Cui, B. Berryman, I.R. Levesque, E.J. McWalter, *Quantitative magnetization transfer MRI of the knee meniscus: Correlations with biochemistry and histology*, Annual Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Virtual Conference & Exhibition, May 15-20, 2021. Poster #2449.
15. A. Thibodeau-Antonacci^{†*}, T. Vuong, H. Bekerat, L. Liang, S.A. Enger, *Development of a dynamic-shielding intensity-modulated brachytherapy applicator for the treatment of rectal cancer*, Annual Congress of CurieTherapies, May 21-23, 2021. Oral presentation.
16. J. Kalinowski^{†*}, G. Famulari[†], S.A. Enger, *RapidBrachyTG43: A Geant4-based TG-43 parameter calculation engine for brachytherapy applications*, Annual Congress of CurieTherapies, May 21-23, 2021. Oral presentation.
17. F. Mathew^{†*}, H. Wang, L. Montgomery[†], J. Kildea, *Natural language processing and machine learning to assist radiation oncology incident learning*, BBME Symposium, Virtual Meeting, McGill University, May 2021. Oral presentation.
18. F. Mathew^{†*}, J. Yeot[†], L. Galarneau, N. Ybarra, Y.C. Wang, P. Tonin, I. Ragoussis, J. Kildea, *Single-cell DNA sequencing as a means to directly examine the size and frequency of radiation-induced mutations: An exploratory study*, McGill University Health Centre (MUHC) Cancer Research Program Research Day, Virtual Meeting, June 11, 2021. Poster presentation.
19. J. Manalad^{†*}, L. Montgomery[†], J. Kildea, *On the simulation of indirect DNA damage from ionizing radiation*, McGill University Health Centre (MUHC) Cancer Research Program Research Day, Virtual Meeting, June 11, 2021. Poster presentation.
20. L. Montgomery^{†*}, C.M. Lund[†], A. Landry, J. Kildea, *Modeling the carcinogenic effects of neutron radiation by simulating clustered DNA damage*, McGill University Health Centre (MUHC) Cancer Research Program Research Day, Virtual Meeting, June 11, 2021. Poster presentation.
21. K. O'Sullivan-Steben^{†*}, L. Galarneau, S. Judd, A. Laizner, T. Williams, J. Kildea, *Empowered patients, informed research: A pilot project for radiotherapy data donation using the opal patient portal*, McGill University Health Centre (MUHC) Cancer Research Program Research Day, Virtual Meeting, June 11, 2021. Oral presentation.
22. Y. Zou^{†*}, L. Weishaupt^{†*}, *Introduction to Python for deep learning*, McMedHacks Workshop, [Week 1 Lecture](#), June 12, 2021. Oral presentation.
23. I. Levesque, *Fade to black: Metal artifacts in MRI and more*, Medical Physics Unit Seminar Series, McGill University, Montreal, Quebec, June 18, 2021.
24. F. Keszti^{†*}, J. Seuntjens, A. Sarfehnia, J. Renaud, *Characterizing the response of absorbed dose calorimeters with non-vacuum thermal insulation materials in isothermal mode of operation*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4665. Scientific Session 31D-1.
25. Y. Poirier, J. Xu, A. Ahmady, S. Mossahebi, H. Zhang, F. Therriault-Proulx, A. Sawant, *Characterization of a novel plastic scintillator for instant real-time dosimetry in electron FLASH-RT*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4666-4667. Scientific Session 1D-4.
26. A. Bui^{†*}, H. Bekerat, L. Childress, J. Sankey, J. Seuntjens, S.A. Enger, *Effect of incoming particle energy, cluster size, LET, and depth in water on the G-value of hydrated electrons*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4672. Scientific Session 2C-3.
27. A. Bui^{†*}, H. Bekerat, S.A. Enger, *Film measurements for verification of dose results in hydrated electron dosimetry*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4673. Scientific Session 2C-5.
28. M. Morcos^{†*}, M. Antaki[†], A. Thibodeau-Antonacci[†], J. Kalinowski[†], H. Glickman[†], S.A. Enger, *RapidBrachyMCTPS: An open-source dose calculation and optimization tool for brachytherapy research*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4675. Scientific Session 3A-1.
29. D.S. Ayala Alvarez^{†*}, P.G.F. Watson, M. Popovic, V.J. Heng[†], M.D.C. Evans, J. Seuntjens, *Brachytherapy dosimetry characterization of the INTRABEAM system with spherical applicators*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4676. Scientific Session 3A-2.

30. [Y. Poirier](#), R. Nillson, A. Sawant, *Commissioning of Xstrahl SARRP in the μ -RayStation treatment planning system and comparison with MuriPlan*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4679-4680. Scientific Session 3B-6.
31. L. Montgomery[†], C.M. Lund[†], A. Landry, [J. Kildea](#), *Modelling the carcinogenic effects of neutron radiation by simulating clustered DNA damage using TOPAS-nBio*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4685. YIS-06.
32. J. Manalad[†], L. Montgomery[†], A. Bui, [J. Kildea](#), *Estimation of neutron RBE related to indirect actions via Monte Carlo simulations*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4692. POSTER 7.
33. [Y. Poirier](#), S. Mossahebi, J. Xu, S. Becker, A. Sawant, *Linac conversion to FLASH-RT: Shielding, dosimetry, and experimental design*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4696-4697. POSTER 20.
34. L. Weishaupt[†], A. Thibodeau-Antonacci[†], A. Garant, K. Singh, C. Miller, T. Vuong, [S.A. Enger](#), *Inter-observer variability and deep learning in rectal tumor segmentation from endoscopy images*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4698. POSTER 23.
35. K. O'Sullivan-Steben[†], L. Galarneau, S. Judd, A. Laizner, T. Williams, [J. Kildea](#), *Empowered patients, informed research: A pilot project for radiotherapy data donation using the opal patient portal*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4699. POSTER 26.
36. F. Mathew^{†*}, H. Wang, L. Montgomery[†], [J. Kildea](#), *Natural language processing and machine learning to assist radiation oncology incident learning*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4704-4705. Scientific Session 6B-6. Oral presentation.
37. H. Naseri[†], K. Kafi, S. Skamene, M. Tolba, M.D. Faye, P. Ramia, J. Khiguian, [J. Kildea](#), *Development of a generalizable natural language processing pipeline to extract physician-reported pain scores from clinical reports in radiation oncology*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4705. Scientific Session 6B-7.
38. H. Patrick[†], E. Sepulveda[†], [J. Kildea](#), *An examination of the relationship between daily rectal wall dose variations during prostate radiotherapy treatment with rectal volume and gas filling information*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4709. Scientific Session 6D-2.
39. S. Côté-Maldonado[†], F. Khosrow-Khavar, F. Cury, [H. Patrocinio](#), *An investigation of predictors for motion in prostate radiotherapy*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021; Med. Phys. **48**(8), 4710. Scientific Session 6D-3.
40. J. Manalad^{†*}, L. Montgomery[†], [J. Kildea](#), *On the simulation of indirect DNA damage from ionizing radiation*, 67th Annual Scientific Meeting of Canadian Organization of Medical Physicists (COMP), Virtual Meeting, June 22-25, 2021. Poster presentation.
41. Y. Zou^{†*}, L. Weishaupt^{†*}, *Digital histopathological image analysis*, McMedHacks Workshop, [Week 3 Lecture](#), June 25, 2021. Oral presentation.
42. J. Kalinowski^{†*}, G. Famulari[†], [S.A. Enger](#), *RapidBrachyTG43: A Geant4-based TG-43 parameter calculation engine for brachytherapy applications*, American Brachytherapy Society, Virtual Meeting, June 25-27, 2021. Oral presentation.
43. M. Lecavalier-Barsoum, F. Khosrow-Khavar, [K. Asiev](#), [M. Popovic](#), T. Vuong, [S.A. Enger](#), *Utilization of brachytherapy in Quebec, Canada*, American Brachytherapy Society, Virtual Meeting, June 25-27, 2021. Oral presentation MSORo8. Brachytherapy **20**, S37-S38 (2021).
44. K. Ghasemi^{†*}, J. DeCunha[†], [S.A. Enger](#), *Monte Carlo evaluation of dosimetric perturbations by multiple implanted stents in intra-vascular brachytherapy*, American Brachytherapy Society, Virtual Meeting, June 25-27, 2021. Oral presentation.
45. P.S. Kim^{†*}, C. Cohalan, D. Junea, [S.A. Enger](#), *Characterizing the effect of tissue mass densities on SPECT-CT dosimetry following radioembolization with Y90*, American Brachytherapy Society, Virtual Meeting, June 25-27, 2021. Oral presentation.

46. L. Weishaupt^{†*}, K.H. Sayed, X. Mao[†], C. Choo, B. Stish, S.A. Enger, C. Deufel, *Approaching automated applicator digitization from a new angle: Using sagittal images to improve deep learning accuracy and robustness in high-dose-rate prostate brachytherapy*, American Brachytherapy Society, Virtual Meeting, June 25-27, 2021. Oral presentation.
47. Y. Zou^{†*}, L. Weishaupt^{†*}, P.G. Watson, *Ultrasound and instance segmentation*, McMedHacks Workshop, [Week 5 Lecture](#), July 10, 2021. Oral presentation.
48. Y. Zlateva^{*}, B. Muir, I. El Naqa, J. Seuntjens, *Geometry optimization and optical sectioning for in-water Cherenkov dosimetry of large and small photon beams*, 63rd Annual Meeting & Exhibition of the American Association of Physicists in Medicine (AAPM), Virtual Meeting, July 25-29, 2021; Med. Phys. **48**(6). MO-IePD-TRACK 6-05. e117-e635.
49. A. Thibodeau-Antonacci^{†*}, T. Vuong, H. Bekerat, L. Liang, S.A. Enger, *Development of a dynamic-shield applicator enabling intensity-modulated brachytherapy for the treatment of rectal cancer*, 63rd Annual Meeting & Exhibition of the American Association of Physicists in Medicine (AAPM), Virtual Meeting, July 25-29, 2021. Poster presentation SU-IePD-TRACK 5-3.
50. F. Keszti^{†*}, A. Bourgouin, A. Schueller, W. Simon, A. Schoenfeld, J. Seuntjens, J. Renaud, *Absolute dosimetry of ultra-high dose rate pulsed electron beams using a graphite probe calorimeter*, 63rd Annual Meeting & Exhibition of the American Association of Physicists in Medicine (AAPM), Virtual Meeting, July 25-29, 2021; Med. Phys. **48**(6). TU-F-TRACK 5-06. e117-e635.
51. A. Bui^{†*}, L. Childress, J. Sankey, J. Seuntjens, S.A. Enger, *Effect of incoming particle energy and ionization cluster size on the G-value of hydrated electrons*, 63rd Annual Meeting & Exhibition of the American Association of Physicists in Medicine (AAPM), Virtual Meeting, July 25-29, 2021; Med. Phys. **48**(6). TH-D-TRACK 5-06. e117-e635.
52. J. Dobbins^{*}, F. Fahey^{*}, J. Prisciandaro^{*}, J. Palta^{*}, B. Parker^{*}, J. Seuntjens^{*}, *New member symposium science council*, 63rd Annual Meeting & Exhibition of the American Association of Physicists in Medicine (AAPM), Virtual Meeting, July 25-29, 2021. Presentation TU-F-TRACK 1-0.
53. F. Mathew^{†*}, *Whodunnit? Identifying radiation as cancer culprit*, MedPhys Slam, 63rd Annual Meeting & Exhibition of the American Association of Physicists in Medicine (AAPM), Virtual Meeting, July 25-29, 2021. Oral presentation.
54. H. Naseri^{†*}, S. Skamene, M. Tolba, M. Faye, P. Ramia, J. Khriugian, H. Patrick[†], A. Hernández[†], J. Kildea, *A simulation CT-based radiomics model for detecting metastatic spinal bone lesions*, 63rd Annual Meeting & Exhibition of the American Association of Physicists in Medicine (AAPM), Virtual Meeting, July 25-29, 2021. Oral presentation.
55. L. Weishaupt^{†*}, A. Thibodeau-Antonacci[†], A. Garant, K. Singh, C. Miller, T. Vuong, S.A. Enger, *Deep learning-based tumor segmentation of endoscopy images for rectal cancer patients*, European Society for Radiotherapy & Oncology (ESTRO), Virtual Meeting, August 27-31, 2021. Poster presentation.
56. F. Mathew^{†*}, H. Wang, L. Montgomery[†], J. Kildea, *Natural language processing and machine learning to assist radiation oncology incident learning*, American Association of Physicists in Medicine (AAPM) Practical Big Data Workshop, Virtual Meeting, September 26-29, 2021. Poster presentation.
57. H. Patrick^{†*}, J. Kildea, *Development of a dose-surface map calculation workflow for large datasets*, American Association of Physicists in Medicine (AAPM) Practical Big Data Workshop, Virtual Meeting, September 26-29, 2021. Poster presentation.
58. K. O'Sullivan-Steben^{†*}, L. Galarneau, S. Judd, A. Laizner, T. Williams, J. Kildea, *Design and development of a novel infrastructure to securely share radiation therapy data through direct patient data sharing*, American Association of Physicists in Medicine (AAPM) Practical Big Data Workshop, Virtual Meeting, September 26-29, 2021. Poster presentation.
59. I. Levesque, *Science outreach to undergraduate students*, Soup & Science series, McGill University, Montreal, Quebec, September 28, 2021.
60. V. Di Lalla, H. Patrick^{†*}, N. Siriani-Ayoub, J. Kildea, T. Hijal, J. Alfieri, *Satisfaction among cancer patients undergoing radiotherapy during the Covid-19 pandemic*, Annual Meeting of the Canadian Association of Radiation Oncology (CARO), Virtual Meeting, September 28-October 01, 2021. Poster presentation.
61. H. Patrick^{†*}, E. Sepulveda[†], J. Kildea, *Delivering cancer care during a pandemic: Patient and healthcare staff experience in a high-volume radiation oncology department*, Annual Meeting of the American Society for Radiation Oncology (ASTRO), Virtual Meeting, October 24-27, 2021. Poster presentation.

62. K. O'Sullivan-Steben^{†*}, L. Galarneau, S. Judd, A. Laizner, T. Williams, J. Kildea, *Empowered patients, informed research: A pilot project for radiotherapy data donation using the opal patient portal*, Canadian Cancer Research Conference, Virtual Meeting, November 08-11, 2021. Poster presentation.
63. Y. Zou^{†*}, M. Lecavalier-Barsoum, M. Pelmus, S.A. Enger, *Investigation of cell spacing, and nuclei size distribution extracted from H&E histopathological whole-slide-images for integration into a multimodality treatment outcome prediction model for gynecological cancer patients*, Annual Scientific Meeting of the Association québécoise des physiciens médicaux cliniques (AQPMC), December 03, 2021. Oral presentation.
64. A. Thibodeau-Antonacci^{†*}, M. Antaki[†], H. Glickmant[†], M. Morcost[†], J. Kalinowski[†], S.A. Enger, *RapidBrachyMCTPS: An open-source dose calculation and optimization tool for brachytherapy research*, Association québécoise de physiciens médicaux cliniques (AQPMC), Virtual Meeting, November 29-December 03, 2021. Oral presentation.
65. K. O'Sullivan-Steben^{†*}, L. Galarneau, S. Judd, A. Laizner, T. Williams, J. Kildea, *Design and development of a novel infrastructure to securely share radiation therapy data through direct patient data sharing*, Association québécoise de physiciens médicaux cliniques (AQPMC), Virtual Meeting, November 29-December 03, 2021. Oral presentation.
66. H. Jafarzadeh^{†*}, S.A. Enger, *Reinforcement learning for weight optimization in high dose rate interstitial brachytherapy*, Association québécoise de physiciens médicaux cliniques (AQPMC), Virtual Meeting, November 29-December 03, 2021. Oral presentation.