

APPENDIX X

PUBLISHED ABSTRACTS

by members of the Medical Physics Unit : 2016 calendar year (x 55)
(names of MPU staff members are underlined, students are indicated by †)

1. M. Carrier-Vallières†, C.R. Freeman, Z. Ahmed†, R. Turcotte, M. Hickeyson, S. Skamene, K. Jeyaseelan, L. Hathout, M. Serban, S.Xing*†, T.I Powell, K. Goulding, J. Seuntjens, I.R. Levesque, I. El Naqa, *Early assessment of lung metastasis risk in soft-tissue sarcomas: Prediction of prospective cohort and potential improvement using hypoxia and perfusion biomarkers*, J. Bone Joint **98-B**(Suppl.20), 39 (2016).
2. M-A. Renaud†, G. Famulari†, J. Seuntjens, S.A. Enger, *Column generation-based Monte Carlo treatment planning for rotating shield brachytherapy*, J. Eur. Soc. Radiother. Onc. **119**(1), S118 (2016); abstract OC-0256.
3. J. Renaud†, A. Sarfehnia, J. Seuntjens, *Experimental benchmarking of a probe-format calorimeter for use as an absolute clinical dosimeter*, J. Eur. Soc. Radiother. Onc. **119**(1), S133 (2016); abstract OC-0285.
4. G. Famulari†, A. Armstrong, T. Urlich, S. Enger, *Production of Gd-153 as a source isotope for use in rotating shield high dose rate brachytherapy*, J. Eur. Soc. Radiother. Onc. **119**(1), S472 (2016); abstract PO-0971, poster.
5. S. Devic, S. Aldelaijan†, F. Alzorkany, N. Tomic, J. Seuntjens, F. DeBlois, B. Moftah, *Improving accuracy of radiochromic film dosimetry system using control film piece*, J. Eur. Soc. Radiother. Onc. **119**(1), S682 (2016); abstract EP-1482.
6. O. Piron†, N. Varfalvy, L. Archambault, *Using ROIs projected on EPID as a predictor of plan deterioration due to anatomical changes*, J. Eur. Soc. Radiother. Onc. **119**(1), S852 (2016); abstract EP-1818.
7. N. Tomic, H. Bekerat, F. DeBlois, J. Seuntjens, R. Forghani, S. Devic, *Dual energy computed tomography based tissue characterization for radiotherapy treatment planning*, J. Eur. Soc. Radiother. Onc. **119**(1), S857 (2016); abstract EP-1827.
8. M. Letourneau, J. Kildea, W. Parker, A. Joseph†, C.R. Freeman, *Using a DVH registry standardizes IMRT-CSI planning and reduces V20 in non-target tissues*, J. Eur. Soc. Radiother. Onc. **119**(1), S658 (2016); 35th annual meeting of the European Society for Radiotherapy & Oncology (ESTRO), Turin, Italy, April 29-May 03, 2016 - abstract EP-1414, poster.
9. S. Faria, I. Alamri†, J. Gluszko, H. Patrocinio, *Do we really need customized immobilization devices for modern SBRT in lung cancer?*, J. Eur. Soc. Radiother. Onc. **120**(1), S56-57 (2016).
10. Z. Ahmed†, I.R. Levesque, *An extended linear reference region model that accounts for plasma volume in dynamic contrast enhanced MRI*, 24th Annual Scientific Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Singapore, May 07-13, 2016.
11. J-F. Cabana, Y. Gu, M. Boudreau, I.R. Levesque, Y. Atchia, J. Sled, S. Narayanan, D.L. Arnold, G.B. Pike, J. Cohen-Adad, T. Duval, T.M. Vuong, N. Stikov, *Quantitative magnetization transfer imaging made easy with qMTLab: Software for data simulation, analysis and visualization*, 24th Annual Scientific Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Singapore, May 07-13, 2016.
12. M. Simard†, E.J. McWalter, G.E. Gold, I.R. Levesque, *Quantitative magnetization transfer MRI of in-situ and ex-situ meniscus*, 24th Annual Scientific Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Singapore, May 07-13, 2016.
13. S. Xing†, C.R. Freeman, S. Jung, I.R. Levesque, *Automated segmentation of soft tissue sarcoma into distinct pathological regions using diffusion and T2 relaxation*, 24th Annual Scientific Meeting of the International Society for Magnetic Resonance in Medicine (ISMRM), Singapore, May 07-13, 2016.
14. M. Delage†, E. Cloutier, M. Lecavalier, D. Lariviere, C. Allen, L. Beaulieu, *Core/shell and multishell colloidal quantum dots nanodosimeters behaviour under repeated MV and KV irradiations*, Med. Phys. **43**(6), 3315 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - presentation SU-C-201-01.

15. M. Rilling†, M. Goulet, L. Beaulieu, S. Thibault, L. Archambault, *Noise and temporal resolution in a near real-time 3D dosimeter*, Med. Phys. **43**(6), 3316 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - presentation SU-C-201-04.
16. Y. Zlateva†*, J. Seuntjens, I. El Naqa, *Towards clinical Cherenkov emission dosimetry: Stopping power- to-Cherenkov power ratios and beam quality specification of clinical electron beams*, Med. Phys. **43** (6), 3317 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - accepted presentation, oral snap SU-C-201-07.
17. C. Collins-Fekete†, R. Schulte, L. Beaulieu, J. Seco, *A novel maximum likelihood method for high-resolution proton radiography/proton CT*, Med. Phys. **43**(6), 3324 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - accepted presentation SU-C-207A-01.
18. L. Archambault, O. Piron†, N. Varfalvy, *Time series analysis of EPID images to identify patients in need of treatment adaptation*, Med. Phys. **43**(6), 3340 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - accepted presentation SU-D-BRA-05.
19. D. Matenine†*, G. Côté, J. Mascolo-Fortin, Y. Goussard, P. Despres, *Evaluation of partial storage of the system matrix for cone beam computed tomography using a GPU platform*, Med. Phys. **43** (6), 3345 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - oral presentation SU-D-206-02.
20. A. Joseph†, D. Herrera, T. Hijal, L. Hendren, A. Leung, J. Wainberg†, M. Sawaf, M. Gorshkov, R. Maglieri†, M. Keshavarz†, J. Kildea, *Predicting waiting times in radiation oncology using machine learning*, Med. Phys. **43**(6), 3362 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - poster SU-F-P-20.
21. S. Laberge, J. Beauregard, L. Archambault, *Correction of FCh-PET bladder uptake using virtual sinograms and investigation of its impact on the quantification of prostate textural characteristics*, Med. Phys. **43**(6), 3379 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - poster SU-F-P-20.
22. S. Lee†, D. Markel†, G. Hegyi, I. El Naqa, *Robustness test of computed tomography textures of lung tissues to varying scanning conditions using a realistic phantom environment*, Med. Phys. **43**(6), 3382 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - poster SU-F-R-40.
23. A. Diamant†, I. El Naqa, N. Ybarra, J. Seuntjens, *Modeling lung SBRT tumor response using Bayesian network averaging*, Med. Phys. **43**(6), 3383 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - poster SU-F-R-44.
24. U. Mwidu, S. Devic, M. Shehadeh, M. AlKafi, R. Mahmood, B. Moftah, *Dosimetry comparison of advanced external beam radiation treatment modalities to brachytherapy treatments in patients with cervical cancer*, Med. Phys. **43**(6), 3559 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - poster SU-F-T-420.
25. S. Devic, N. Tomic, D. Lewis, S. Aldelaijan, F. DeBlois, J. Seuntjens, *Uncertainty of radiochromic film based relative dose measurements*, Med. Phys. **43**(6), 3634 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - presentation SU-G-BRB-14.
26. K. O'Grady†, S. Davis, J. Seuntjens, *Creation of a Monte Carlo TrueBeam model by reproducing Varian phase space data*, Med. Phys. **43**(6), 3730 (2016); AAPM 58th annual meeting & exhibition, Washington, DC, July 31 - August 4, oral presentation, TU-AB-BRC-05.
27. G. Kim, B. Muir, W. Culberson, S. Davis, Y. Huang, S. Lee†, J. Lowenstein, A. Sarfehnia, N. Tolani, J. Siebers, *Results of a survey on the implementation of the TG-51 protocol and associated addendum on reference dosimetry of external beams*, Med. Phys. **43**(6), 3730 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - oral presentation TU-D-201-03.
28. P.G. Watson†, M. Renaud†, J. Seuntjens, *Efficiency of an IAEA phase-space source for a low energy x-ray tube using Egs++*, Med. Phys. **43**(6), 3731 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - oral presentation TU-AB-BRC-07.

29. C. Collins-Fekete†, R. Schulte, L. Beaulieu, J. Seco, *A new optimization method for pre-treatment patient-specific stopping-power by combining proton radiography and X-Ray CT*, Med. Phys. **43**(6), 3756 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - accepted presentation TU-FG-BRB-04.
30. W. Parker, *CAMPEP residencies in a Canadian context: Comprehensive cancer centers and integrated learning environments*, Med. Phys. **43**(6), 3808 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - poster WE-D-204-03.
31. J. Schneider†, T. Vuong, N. Tomic, M. Hickeson, R. Lisbona, F. DeBlois, J. Seuntjens, S. Devic, *Decomposition of FDG-PET based differential uptake volume histograms in rectal cancer patients*, Med. Phys. **43**(6), 3827 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - poster WE-FG-202-04.
32. L. Mirzakhanian†, H. Benmakhlouf, J. Seuntjens, *New formalism correction factors for ionization chambers in the calibration of Leksell gamma knife perfexion model based on Monte Carlo simulation*, Med. Phys. **43**(6), 3851 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - oral presentation TH-AB-201-09.
33. L. Archambault, P. Papaconstadopoulos†, J. Seuntjens, H. Bouchard, *A study of Cherenkov light generated and collected in plastic scintillation detector*, Med. Phys. **43**(6), 3870 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - presentation TH-CD-201-04.
34. S. Hickling†*, I. El Naqa, *Experimental characterization of acoustic signals generated in water following clinical photon and electron beam irradiation*, Med. Phys. **43** (6), 3870 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - presentation TH-CD-201-06.
35. J. Renaud†*, A. Sarfehnia, S. Woodings, J. Kok, B. van Asselen, J. Wolthaus, B. Raaymakers, J. Seuntjens, *Towards reference dosimetry of MR-linacs using a clinical probe-format calorimeter*, Med. Phys. **43**(6), 3875 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - presentation TH-CD-BRA-10.
36. N. Entezari, J. Renaud†, G. Peterson, A. Sarfehnia, *Towards absolute dose measurement in MRI-linac and gamma-knife: Design and construction of an MR-compatible water calorimeter*, Med. Phys. **43** (6), 3875 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - oral presentation TH-CD-BRA-09.
37. J. Seuntjens, *Small field radiation therapy: Physics and recent recommendations from IAEA and ICRU*, Med. Phys. **43**(6), 3893 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - presentation TH-EF-204-02.
38. S. Hickling†, H. Lei, M. Hobson, P. Léger, X. Wang, I. El Naqa, *Imaging dose distributions through the detection of radiation-induced acoustic waves*, Med. Phys. **43**(8), 4928 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016.
39. Y. Zlateva†, J. Seuntjens, I. El Naqa, *Stopping power-to-Cherenkov power ratios and beam quality specification for clinical Cherenkov emission dosimetry of electrons: beam-specific effects and experimental validation*, Med. Phys. **43**(8), 4929 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016 - oral presentation for the J.R. Cunningham Young Investigator Symposium.
40. A. Diamant-Boustead†, J. Seuntjens, I. El Naqa, N. Ybarra, *Modelling metastasis after lung SBRT using Bayesian network averaging*, Med. Phys. **43**(8), 4930 (2016); <http://dx.doi.org/10.1118/1.4961760>; 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016 - Second Prize at the J.R. Cunningham Young Investigators Symposium.
41. A. Toltz†, M. Hoesl, J. Schuemann, J. Seuntjens, H-M. Lu, H. Paganetti, *Time-resolved diode dosimetry for in vivo proton therapy range verification: Calibration through numerical modeling*, Med. Phys. **43**(8), 4939 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016 - poster.
42. J. Kildea, S. Enger, R. Maglieri†, L. Mirzakhanian†, C. Vallhagen Dahlgren, J. Dubeau, S. Witharana†, *Neutron spectral measurements around a scanning proton Beam*, Med. Phys. **43**(8), 4941 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016.

43. J. Kildea, T. Hijal, *Electronic waiting room management for a busy cancer centre*, Med. Phys. **43**(8), 4942 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016.
44. M.D.C. Evans, R. Ruo, H.J. Patrocinio, E. Poon, C.R. Freeman, T. Hijal, W. Parker, *TB - ARC: A total body photon ARC technique using a commercially available linac*, Med. Phys. **43**(8), 4946 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016 - poster.
45. I. Alamri†, S. Faria, J. Gluszko, H.J. Patrocinio, *Intra-fraction tumor position assessment for lung SBRT in patients treated without customized immobilization devices*, Med. Phys. **43**(8), 4947 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016 - poster.
46. A. Joseph†, D. Herrera, T. Hijal, L. Hendren, A. Leung, J. Wainberg, M. Sawaf, G. Maxim, R. Maglieri†, M. Keshavarz†, J. Kildea, *Predicting waiting times in radiation oncology using machine learning*, Med. Phys. **43**(8), 4953 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016.
47. J. Renaud†, J. Seuntjens, A. Sarfehnia, *Energy dependence of a clinical probe-format calorimeter and its pertinence to absolute photon and electron beam dosimetry*, Med. Phys. **43**(8), 4959 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016.
48. L. Montgomery†, J. Kildea, *An evaluation of incident reporting and learning using the Canadian National System for incident reporting: Radiation treatment*, Med. Phys. **43**(8), 4959 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016.
49. P.G. Watson†, J. Seuntjens, *Investigation of an absorbed dose to water formalism for a miniature low- energy x-ray source*, Med. Phys. **43**(8), 4960 (2016); 62nd annual scientific meeting of the Canadian Organization of Medical Physicists (COMP/OCMP), St. John's, NL, July 20-23, 2016 - oral presentation.
50. N. Tomic, H. Bekerat, J. Seuntjens, R. Forghani, F. DeBlois, S. Devic, *Improving radiotherapy treatment planning using dual energy computed tomography based tissue characterization*, Med. Phys. **43**(6), 3554 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - poster SU-F-T- 398.
51. Y. Ma†*, M. Laprise-Pelletier, J. Lagueux, M. Côté, M. Fordin, L. Beaulieu, *Dose enhancement of gold nanoparticle in proton therapy: A Monte Carlo study based on the transmission electron microscopy imaging*, Med. Phys. **43**(6), 3674 (2016); 58th annual meeting & exhibition of the American Association of Physicists in Medicine (AAPM), Washington, DC, July 31-August 04, 2016 - presentation SU-G-TeP3-031.
52. A. Diamant-Boustead†, J. Seuntjens, I. El Naqa, H. Al-Halabi, K. Adil, *Prediction of distant metastasis using dose-volume metrics in non-small cell lung cancer stereotactic body radiation therapy*, Int. J. Radiat. Onc. Biol. Phys. **96**(2S), E603 (2016) - doi: 10.1016/j.ijrobp.2016.06.2140; 58th annual meeting of the American Society for Radiation Oncology (ASTRO), Boston, Massachusetts, September 25-28, 2016.
53. K. Adil, A. Diamant-Boustead†, I. El Naqa, J. Seuntjens, M. Duclos, N. Kopek, S. Faria, B.S. Abdulkarim, H. Al-Halabi, *Stereotactic body radiation therapy with 48 Gy in 3 fractions is an effective treatment for early-stage non-small cell lung cancer patients*, Int. J. Radiat. Oncol. Biol. Phys. **96**(2S), E481-2 (2016); 58th annual meeting of the American Society for Radiation Oncology (ASTRO), Boston, Massachusetts, September 25-28, 2016.
54. N. Ybarra, M. Vallieres†, K. Jeyaseelan, C.R. Freeman, S. Jung, R. Turcotte, J. Seuntjens, I. El Naqa, *Correlation of molecular imaging and biomarkers expression in the prediction of metastatic capacity of soft tissue sarcomas*, Int. J. Radiat. Oncol. Biol. Phys. **96**(2S), E705-6 (2016); 58th annual meeting of the American Society for Radiation Oncology (ASTRO), Boston, Massachusetts, September 25-28, 2016.
55. V. Fortier†, I.R. Levesque, *Comparison of phase processing techniques for quantitative susceptibility mapping*, 4th International Workshop on MRI Phase Contrast & Quantitative Susceptibility Mapping, Graz, Austria, p.113, September 26-28, 2016.