APPENDIX IX.

PUBLICATIONS

by members of the Medical Physics Unit : 2022 calendar year (x 44)
(*names of MPU staff members are underlined, students are indicated by* †)

1. A.R. Castro, A. Arnaert, K. Moffatt, J. Kildea, V. Bitzas, A. Tsimicalis, *"Informal caregiver" in nursing: An evolutionary concept analysis*, ANS Adv Nurs Sci. 2022 Aug 24; doi: 10.1097/ANS.0000000000000439 . Online ahead of print.
2. C.J. Nelson, E.T. Soisson, P.C. Li, N.H. Lester-Coll, H. Gagne, M.A. Deeley, C.J. Anker, L.A. Roy, H.J. Wallace, *Impact of and response to cyberattacks in radiation oncology*, Adv. Radiat. Oncol. 2022 Jun 18;7(5):100897. doi: 10.1016/j.adro.2022.100897.
3. M.D. Shen, M.R. Swanson, J.J. Wolff, J.T. Elison, J.B. Girault, S.H. Kim, R.G. Smith, M.M. Graves, L.A.H. Weisenfeld, L. Flake, L. MacIntyre, J.L. Gross, C. . Burrows, V.S. Fonov, D.L. Collins, et al, *Subcortical brain development in autism and fragile X syndrome: Evidence for dynamic, age- and disorder-specific trajectories in infancy*, Am. J. Psychiatry **179**(8), 562-572 (2022).
4. P. Chaxiong, C. Burrows, K.N. Botteron et al, D.L. Collins, & I. Network, *Relations of restricted and repetitive behaviors to social skills in toddlers*, J. Aut. Dev. Disord. **52**(4), 1423-1434 (2022).
5. L.L. Weishaupt†, H.K. Sayed, X. Mao, R. Choo, B.J. 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*, Brachytherapy S1538-4721(22)00036-8 (2022). doi: 10.1016/j.brachy.2022.02.005. Online ahead of print. PMID: 35422402
6. L.L. Weishaupt†, T. Vuong, A. Thibodeau-Antonacci†, A. Garant, K.S. Singh, et al., *Quantifying inter-observer variability in the segmentation of rectal tumors in endoscopy images and its effect on deep learning,* J. Can. Assoc. Gastroent. **5** (S1), 140-142, A121 (2022). https://doi.org/10.1093/jcag/gwab049.120
7. T. Vuong, A. Garant, F. Khosrow-Khavar, S. Devic, S.A. Enger, M. Boutros, et al., *Is surgery still the only treatment option for incurable rectal cancer?*, J. Can. Assoc. Gastroent. **5** (Suppl 1), 13 pages, A141 (2022).
8. T. Vuong, A. Garant, V. Vendrely, A.G. Martin, S. Devic, *Clinical applications of high dose rate endorectal brachytherapy for patients with rectal cancer*, Cancer Radiother. **26**(6-7), 879-883 (2022). doi: 10.1016/j.canrad2022.07.001
9. A. Garant, C.A. Vasilevsky, M. Boutros, F. Khosrow-Khavar, P. Kavan, H. Diec, S. Des Groseilliers, J. Faria, E. Ferland, V. Pelsser, A.G. Martin, S. Devic, T. Vuong, *MORPHEUS phase II-III study: A pre-planned interim safety analysis and preliminary results,* Cancers **14**(15), 3665 (2022). doi: 10.3390/cancers14153665.
10. T. Vuong, A. Garant, V. Vendrely, R. Nout, A-G. Martin, S.A. Enger, E.B. Podgorsak, B. Moftah, S. Devic, *Image-guided brachytherapy for rectal cancer: Reviewing the past two decades of clinical investigation*, Cancers **14**(19), 4846 (2022). doi: 10.3390/cancers14194846.
11. K. Parmar, V.S. Fonov, Y. Naegelin, M. Amann, J. Wuerfel, D.L. Collins, L. Gaetano, S. Magon, T. Sprenger, L. Kappos, C. Granziera, C. Tsagkas, *Regional cerebellar volume loss predicts future disability in multiple sclerosis patients*, Cerebellum **21**(4), 632-646 (2022).
12. M.S. Kang, M. Shin, J. Ottoy, A.A. Aliaga, S. Mathotaarachchi, K. Quispialaya, T.A. Pascoal, D.L. Collins, et al, *Preclinical in vivo longitudinal assessment of KG207-M as a disease-modifying Alzheimer's disease therapeutic*, J. Cereb. Blood Flow Metab. **42**(5), 788-801 (2022).
13. S. Sung, A. Fenoglio, J.J. Wolff, R.T. Schultz, K.N. Botteron, S.R. Dager, A.M. Estes, H.C. Hazlett, L. Zwaigenbaum, J. Piven, J.T. Elison, J. Piven, C. Chappell, S. Dager, A. Estes, D. Shaw, K. Botteron, R. McKinstry, J. Constantino, J. Pruett, J. Pandey, L. Zwaigenbaum, J.T. Elison, A.C. Evans, D.L. Collins, G.B. Pike, et al, *Examining the factor structure and discriminative utility of the Infant Behavior Questionnaire–Revised in infant siblings of autistic children*, Child Devel. **93**(5), 1398-1413 (2022).

14. E. De Somma, J. O'Mahony, R.A. Brown, B.L. Brooks, E.A. Yeh, A. Cardenas de La Parra, D. Arnold, D.L. Collins, J. Maranzano, S. Narayanan, R. A. Marrie, A. Bar-Or, B. Banwell and C. Till, *Disrupted cognitive development following pediatric acquired demyelinating syndromes: A longitudinal study*, Child Neuropsych. **28**(5), 649-670 (2022).
15. A. Caissie, R. Olson, L. Barbera, J. O'Donnell, C-A. Davis, J. Croke, L. Bird, J. Kildea, E. Brown, M. Brundage, M. Milosevic, *Striving to fill in gaps between clinical practice and standards: The evolution of a Pan-Canadian approach to patient-reported outcomes use*, Curr. Oncol. **29**, 3698–3707 (2022). https://doi.org/10.3390/curroncol29050296.
16. R.B. Richardson, *The role of oxygen and the Goldilocks range in the development of cataracts induced by space radiation in US astronauts*, Exp. Eye Res. **223**, (2022). https://doi.org/10.1016/j.exer.2022.109192.
17. J.D. Lewis, G. Bezgin, V.S. Fonov, D.L. Collins, A.C. Evans, *A sub-cortical fMRI-based surface parcellation*, Human Brain Mapping **43**(2), 616-632 (2022).
18. D. Lessard, K. Engler, Y. Ma, A.R. Cruz, S. Vicente, N. Kronfli, S. Barkati, M-J. Brouillette, J. Cox, J. Kildea, T. Hijal, M-P. Pomey, S.J. Bartlett, J. Asselah, B. Lebouché, *Remote follow-up of self-isolating COVID-19 patients with a patient portal: Protocol for a mixed-method pilot study (The Opal-COVID Study)*, J. Med. Internet Res., Res. Protoc. **11**(8), e35760 (2022). doi: 10.2196/35760. Online ahead of print.
19. J. Renaud, B. Muir, *Assessing the accuracy of electronic portal imaging device (EPID)-based dosimetry: II. Evaluation of a dosimetric uncertainty budget and development of a new film-in-EPID absorbed dose calibration methodology*, Med. Phys. **49**(2), 1238-1247 (2022). https://aapm.onlinelibrary.wiley.com/doi/10.1002/mp.15425.
20. B. Muir, H. Nusrat, A. Sarfehnia, J. Renaud, *Monte Carlo optimization and experimental validation of a prototype ionization chamber for accurate magnetic resonance image guided radiation therapy (MRgRT) daily output constancy measurements in solid phantoms*, Med. Phys. **49**(8), 5483-5490 (2022). https://aapm.onlinelibrary.wiley.com/doi/pdfdirect/10.1002/mp.15695.
21. A. Bourgouin, F. Keszti†, A. Schoenfeld, T. Hackel, J. Kozelka, J. Hildreth, W. Simon, A. Schüller, J. Seuntjens, R-P. Kapsch, J. Renaud, *The probe-format graphite calorimeter, Aerrow, for absolute dosimetry in ultra-high pulse dose rate electron beams*, Med. Phys. **49**(10), 6635-6645 (2022). https://doi.org/10.1002/mp.15899.
22. H.M. Patrick, J. Kildea, *Technical note: rtdsm - An open-source software for radiotherapy dose-surface map generation and analysis*, Med. Phys. 2022 Aug 1. PMID: 35912447, doi: 10.1002/mp.15900 . Online ahead of print.
23. B. Muir, W. Culberson, S. Davis, G-Y. Kim, S-W. Lee, J. Lowenstein, J. Renaud, A. Sarfehnia, J. Siebers, L. Tantôt, N. Tolani, *AAPM WGTG51 Report 374: Guidance for TG-51 reference dosimetry*, Med. Phys. **49**(11), 6739-6764 (2022). https://aapm.onlinelibrary.wiley.com/doi/10.1002/mp.15949.
24. L. Carroll†, S.A. Enger, *Simulations of a novel, non-invasive radiation detector to measure the arterial input function for dynamic PET*, Med. Phys. 2022 Oct 17. Doi: 10.1002/mp.16055. Online ahead of print.
25. L.C. Paterson†, A. Festarini, M. Stuart, F. Ali, C. Costello, C. Boyer, R. Rogge, N. Ybarra, J. Kildea, R.B. Richardson, *High-accuracy relative biological effectiveness values following low-dose thermal neutron exposures support bimodal quality factor response with neutron energy*, Int. J. Mol. Sci. **23**(2), 878 (2022). https://doi.org/10.3390/ijms23020878.
26. M. Dadar, A.L. Manera, S. Ducharme, D.L. Collins, *White matter hyperintensities are associated with grey matter atrophy and cognitive decline in Alzheimer's disease and frontotemporal dementia*, Neurobiol. Aging **111**, 54-63 (2022).
27. V.S. Fonov, M. Dadar, Prevent-Ad Research Group Adni, D.L. Collins, *DARQ: Deep learning of quality control for stereotaxic registration of human brain MRI to the T1w MNI-ICBM 152 template*, NeuroImage **257** (2022).
28. C. Morrison, M. Dadar, N. Shafiee, S. Villeneuve, D.L. Collins, I. for Alzheimer's Disease Neuroimaging, *Regional brain atrophy and cognitive decline depend on definition of subjective cognitive decline*, NeuroImage: Clinical **33**: 102923 (2022). Doi: 10.1016/j.nicl.2021.102923.
29. A.L. Manera, M. Dadar, D.L. Collins, S. Ducharme, I. Frontotemporal Lobar Degeneration Neuroimaging and I. Alzheimer's Disease Neuroimaging, *Ventricular features as reliable differentiators between bvFTD and other dementias*, NeuroImage: Clinical **33**:102947 (2022). Doi: 10.1016/j.nicl.2022.102947.
30. V. Fortier, I.R. Levesque, *Longitudinal relaxation in fat-water mixtures and its dependence on fat content at 3-T*, NMR in Biomed. **35**(2), e4629 (2022). https://doi.org/10.1002/nbm.4629

31. L. Garcia-Garcia, S. Neseliler, F. Morys, M. Dadar, Y.H.C. Yau, S.G. Scala, Y. Zeighami, N. Sun, D.L. Collins, U. Vainik, A. Dagher, *Relationship between impulsivity, uncontrolled eating and body mass index: A hierarchical model*, Int. J. Obesity **46**(1), 129-136 (2022).
32. F.C. Rodrigues-Machado†, P. Pestre†, V. Dumont, S. Bernard†, E. Janitz†, L. Scanlon, S.A. Enger, L. Childress, J. Sankey, *Sideband cavity absorption readout (SideCAR) with a robust frequency lock*, Opt. Express **30**(2), 754-767 (2022); 2022 Jan 17. doi: 10.1364/OE.443109.
33. V.S. Fonov, M. Dadar, Prevent-Ad Research Group Adni, D.L. Collins, *DARQ: Deep learning of quality control for stereotaxic registration of human brain MRI to the T1w MNI-ICBM 152 template*, NeuroImage **257** (2022).
34. R. Wolff, A. Hsu, Y.C. Heo, L. Zhang, M.D.C. Evans, W.J. Seong, *Two-year follow-up comparison of three surgical techniques for implant placement in posterior maxilla with limited alveolar bone height*, Int. J. Oral Maxillofac. Implants **37**(1), 171-180 (2022). doi: 10.11607/jomi.8302.
35. S.A. Enger, J. Sankey, L. Childress, J. Megroureche†, *Radiation dosimeter*, US Patent App. 17/298,743.
36. L. Carroll†, S.A. Enger, *Monte Carlo simulations of a non-invasive positron detector to measure the arterial input function for dynamic PET*, J. Phys: Conference Series 2167 (1), 012005.
37. J. Khriguian, H. Patrocinio, S. Andonian, A. Aprikian, W. Kassouf, S. Tanguay, F.L. Cury, *Stereotactic ablative radiation therapy for the treatment of upper urinary tract urothelial carcinoma*, Pract. Radiat. Oncol. **12**(1), e34-e39 (2022). doi: 10.1016/j.prro.2021.07.006. Epub 2021 Sep 13.
38. L.C. Wang, R. Yadav†, M. Serban, O. Arias, J. Seuntjens, N. Ybarra, *Validation of an orthotopic non-small cell lung cancer mouse model, with left or right tumor growths, to use in conformal radiotherapy studies*, PLOS One (Public Library of Science), PONE-D-22-27036 (2022).
39. K.A. Rabaeh, I.M.E. Hammoudeh, B. Moftah, A.A. Ogllat, M.M. Eyadeh, F.M. Aldweri, A.J. Abdel-Qader, S. Devic, *A normoxic acrylic acid polymer gel for dosimetry in radiation therapy*, J. Radioanal. Nuc. Chem. **331**(2), 665-672 (2022). Doi: 10.1007/s10967-021-08143-7.
40. T.L. Lefebvre, Y. Ueno, A. Dohan, A. Chatterjee, M. Vallières, E. Winter-Reinhold, S. Saif, I.R Levesque, X.Z. Zeng, R. Forghani, J. Seuntjens, P. Soyer, P. Savadjiev, C. Reinhold, *Development and validation of multiparametric MRI-based radiomics models for preoperative risk stratification of endometrial cancer*, Radiology **305**(2), 375-386 (2022). https://doi.org/10.1148/radiol.212873, online ahead of print
41. M. Serban, M. Gallois†, T. Urtubey†, R. Nout, A. de Leeuw, L. Fokdal, M. Assenholt, S. Spampinato, K. Bruheim, B. Segedin, S. Chopra, M. Schmid, N. Nesvacil, S. Ecker, K. Kirchheiner, R. Pötter, H. Westerveld, F. Huang, L. Velema, L.T. Tan, M. Valgma, H. Mathiesen, J. Lindegaard, I. Jürgenliemk-Schulz, K. Tanderup, *Effect of dose and fractionation de-escalation in low-risk cervix cancer treated with EBRT and BT*, Radiother. Oncol. **170** (suppl 1), S451-S453 (2022); **Brachytherapy Best Paper**, ESTRO, May 06-10, 2022, Copenhagen, Denmark. Presentation Number: OC-0503.
42. H. Naseri†, S. Skamene, M. Tolba, M.D. Faye, P. Ramia, J. Khriguian, H. Patrick†, A.X. Andrade Hernandez, M. David, J. Kildea, *Radiomics-based machine learning models to distinguish between metastatic and healthy bone using lesion-center-based geometric regions of interest*, Sci. Rep. **12**(1), 9866 (2022). doi: 10.1038/s41598-022-13379-8.
43. H.E. Gueziri, M. Georgiopoulos, C. Santaguida, D.L. Collins, *Ultrasound-based navigated pedicle screw insertion without intraoperative radiation: Feasibility study on porcine cadavers*, Spine Journal **22**(8), 1408-1417 (2022).
44. S.J. Lehtola, J.J. Tuulari, L. Karlsson, J.D. Lewis, V.S. Fonov, D.L. Collins, R. Parkkola, J. Saunavaara, N. Hashempour, J. Pelto, T. Lähdesmäki, N. M. Scheinin, H. Karlsson, *Sex-specific associations between maternal pregnancy-specific anxiety and newborn amygdalar volumes: Preliminary findings from the FinnBrain Birth Cohort Study*, Stress **25**(1), 213-226 (2022).