

APPENDIX XIV.

PUBLISHED ABSTRACTS

by members of the Medical Physics Unit : 2006 calendar year
(names of MPU staff members are underlined, students are indicated by †)

1. E. Poon†, S. Devic, T. Vuong, F. Verhaegen, *Dosimetric study of an intracavitary mold applicator for high dose rate brachytherapy treatment*, Brachytherapy **5**, 83 (2006).
2. T. Vuong, T. Ducruet, N. Kopek, L. Portelance, B. Bahoric, S. Devic, *Conformal therapy as a mean too improve treatment therapeutic index for patients with anal canal cancer*, J. Eur. Soc. Ther. Radiol. Oncol. **78** (Suppl 1), S37 (abstract 118), (2006).
3. S. Devic, J. Seuntjens, N. Tomic, T. Vuong, E.B. Podgorsak, *Impact of absorption spectroscopy on 2D radiochromic film dosimetry*, J. Eur. Soc. Ther. Radiol. Oncol. **78** (Suppl 1), S78 (abstract 223), (2006).
4. A. Sarfehnia†, K. Jabbari†, J. Seuntjens, E.B. Podgorsak, *Radiation quality in high contrast imaging with orthogonal bremsstrahlung beams*, Med. Phys. **33**, 1984 (2006).
5. W. Parker, E. Poli, H.J. Patrocínio, L. Souhami, L. Lucente Campos, E.B. Podgorsak, *Analysis of 10,327 pre-treatment ultrasound localizations for 387 prostate cancer patients treated with conformal 3D external beam radiation therapy*, Med. Phys. **33**, 2026 (2006).
6. E. Heath†, P. Keall, D.L. Collins, F. DeBlois, J. Seuntjens, *Validation of non-linear image registration-based correction method for motion artifacts in 4D-CT*, Med. Phys. **33**, 2050 (2006).
7. C. Duchesne, M. Mondat, W. Wierzbicki, *Electron arc therapy with an Elekta SL-25 10 MeV beam using a dedicated short applicator*, Med. Phys. **33**, 2096 (2006).
8. S. Devic, T. Vuong, M.D.C. Evans, E.B. Podgorsak, E. Poon†, F. Verhaegen, *HDR endorectal brachytherapy: Quality assurance*, Med. Phys. **33**, 2105-2106 (2006).
9. M.D.C. Evans, M. Olivares, J. Seuntjens, W. Parker, S. Devic, E. Poli, C.R. Freeman, E.B. Podgorsak, *Rotational total skin electron irradiation using a commercially available linear accelerator with a high dose rate total body electron mode*, Med. Phys. **33**, 2134-2135 (2006).
10. Y. Wang, D. Lewis, E. Poon†, F. Verhaegen, E.B. Podgorsak, S. Devic, *Sensitivity of document scanners used for radiochromic film dosimetry*, Med. Phys. **33**, 2135 (2006).
11. W. Parker, E. Poli, M.D.C. Evans, L. Lucente Campos, E.B. Podgorsak, *The effect of target volume depth on surface dose for inverse planned IMRT treatments of head and neck cancers*, Med. Phys. **33**, 2142 (2006).
12. N. Tomic, M. Gosselin, J. Wan, U. Saragovi, M.D.C. Evans, E.B. Podgorsak, S. Devic, *Verification of cell irradiation dose deposition using radiochromic film*, Med. Phys. **33**, 2149 (2006).
13. M. Bazalova†, S. Palefsky, L. Beaulieu, F. Verhaegen, *Correction of streaking artifacts in CT images and its influence on Monte Carlo dose calculations*, Med. Phys. **33**, 2158-2159 (2006).
14. A. Elliott†, K. Stewart†, J. Seuntjens, *Investigation of properties of a new liquid ionization chamber*, Med. Phys. **33**, 2193 (2006).
15. E. Sham†, S. Devic, J. Seuntjens, E.B. Podgorsak, *Dosimetry of very small (1.5 and 3 mm diameter) photon beams: Diode and film measurements versus Monte Carlo calculations*, Med. Phys. **33**, 2214 (2006).
16. K. Al-Yahya†, S. Devic, F. Verhaegen, J. Seuntjens, *Construction and dosimetry of a prototype automated few-leaf electron collimator (FLEC) for delivery of energy-intensity modulated electron therapy*, Med. Phys. **33**, 2219 (2006).

17. E. Tryggestad, E. Armour, H. Deng, E. Ford, J. Huang, I. Iordachita, P. Kazanzides, C. Kennedy, T. McNutt, F. Verhaegen, J. Wong, *The small-animal radiation research platform (SARRP): Commissioning a 225 KVP "small-field" x-ray source for Monte Carlo-based treatment planning*, Med. Phys. **33**, 2241 (2006).
18. J. Seuntjens, *In's and out's of non-equilibrium dosimetry*, Med. Phys. **33**, 2275-2276 (2006).
19. W. Abdel-Rahman, S. Devic, J. Seuntjens, E.B. Podgorsak, *Accurate dosimetry in photon build-up region*, Med. Phys. **33**, 2276 (2006).
20. J. Seuntjens, *Moderated discussion & concluding remarks*, Med. Phys. **33**, 2277 (2006).
21. E. Sham†, S. Devic, J. Seuntjens, E.B. Podgorsak, *Focal source size measurement for Monte Carlo simulations of percentage depth doses in very small photon fields*, Med. Phys. **33**, 2284 (2006).
22. G. Stroian, L. Souhami, C. Martens, D.L. Collins, J. Seuntjens, *Image registration-based tool for correlation studies of radiation-induced fibrosis and local dose-related parameters in conformal non-small cell lung cancer radiation therapy*, Med. Phys. **33**, 2289 (2006).
23. A. Alexander†, F. DeBlois, J. Seuntjens, *MMCTP, a radiotherapy research environment for Monte Carlo and patient-specific treatment planning*, Med. Phys. **33**, 2293 (2006).
24. C. Duchesne†, M. Mondat, W. Wierzbicki, *Analytical model for electron arc beam output determination using an Elekta SL-25 linear accelerator*, Med. Phys. **33**, 2665 (2006).
25. K. Al-Yahya†, F. Verhaegen, J. Seuntjens, *Planning and automatic delivery of energy modulated electron therapy (EMET): A novel technique*, Med. Phys. **33**, 2668 (2006).
26. A. Sarfehnia†, K. Jabbari†, J. Seuntjens, E.B. Podgorsak, *High contrast imaging using orthogonal bremsstrahlung beams: An experimental study of radiation quality*, Med. Phys. **33**, 2668 (2006).
27. A. Elliott†, K. Stewart†, J. Seuntjens, *Study of characteristics of a new liquid ionization chamber*, Med. Phys. **33**, 2674 (2006).
28. M.D.C. Evans, M. Olivares, J. Seuntjens, W. Parker, S. Devic, E. Poli, C.R. Freeman, E.B. Podgorsak, *A rotational total skin electron irradiation technique using a linear accelerator with a commercially available high dose rate total body electron mode*, Med. Phys. **33**, 2674 (2006).
29. H. Patone, L. Souhami, W. Parker, F. Cury, L. Portelance, *A dosimetric comparison of two high-dose-rate brachytherapy planning systems in cervix cancer: Individualized treatment planning versus standardized template planning*, Int. J. Radiat. Oncol. Biol. Phys. **66**, S400-S401 (2006).
30. W. Parker, E. Filion, D. Roberge, C.R. Freeman, *IMRT for spinal irradiation in the treatment of pediatric medulloblastoma*, Int. J. Radiat. Oncol. Biol. Phys. **66**, S530 (2006).
31. E. Filion, W. Parker, C.R. Freeman, *IMRT provides superior normal tissue sparing in the treatment of patients with pediatric retinoblastoma*, Pediatric Blood & Cancer **47**, 355-356 (2006).
32. W. Parker, E. Poli, H.J. Patrocinio, L. Souhami, G. Shenouda, L.L. Campos, E.B. Podgorsak, *An assessment of inter-fraction organ motion based on 10,327 pre-treatment ultrasound localizations for 387 prostate cancer patients treated with conformal 3D external beam radiation therapy*, Radioth. Oncol. **80**, S9 (2006).
33. H. Patone, L. Portelance, W. Parker, L. Souhami, *A comparison of individual treatment planning to a standardized template planning approach in high-dose-rate brachytherapy planning for cervix cancer*, Radioth. Oncol. **80**, S39 (2006).
34. E. Filion, W. Parker, C.R. Freeman, *IMRT provides superior normal tissue sparing in the treatment of patients with pediatric retinoblastoma*, Radioth. Oncol. **80**, S50 (2006).
35. W. Parker, E. Filion, D. Roberge, C.R. Freeman, *IMRT for pediatric medulloblastoma*, Radioth. Oncol. **81**, S372 (2006).
36. C.L.L. Chia†, I. Levesque†, G.B. Pike, *Scan re-scan reproducibility of myelin water estimates*, ISMRM Workshop on Imaging Myelin: Formation, Destruction and Repair, Vancouver, British Columbia, February 08-10, 2006.
37. I. Levesque†, C.L.L. Chia†, G.B. Pike, *The impact of compartmental exchange on estimates of the myelin water fraction*. ISMRM Workshop on Imaging Myelin: Formation, Destruction and Repair, Vancouver, British Columbia, February 08-10, 2006.

38. G. Jarry†, S. Graham, D.A. Jaffray, D.J. Moseley, F. Verhaegen, *Scatter correction for kilovoltage cone beam computer tomographic (CBCT) images using Monte Carlo simulations*, SPIE meeting on Medical Imaging, San Diego, California, February 11-16, 2006.
39. G.B. Pike, B. Stefanovic, J.M. Warnking, K.M. Rylander, *BOLD and the interplay of hemodynamics and oxygen extraction*, Neural Activity and Bold Functional MRI Gatsby Foundation Workshop, London, England, February 27-March 01, 2006.
40. E. Poon†, F. Verhaegen, *GEANT4 for dosimetric study of an intracavitary brachytherapy applicator*, G4NAMU meeting, Stanford, California, March 06, 2006.
41. J.S.W. Campbell, P. Savadjiev, K. Siddiqi, G.B. Pike, *Validation and regularization in diffusion MRI tractography*, 2006 International Symposium on Biomedical Imaging: From Nano to Macro, Arlington, Virginia, April 6-9, 2006.
42. E. Klepousniotou, G.B. Pike, K. Steinhauer, V. Gracco, *Meaning activation of homonymy and polysemy: An EEG investigation*, Cognitive Neuroscience Society (CNS) Meeting, San Francisco, California, April 08-11, 2006.
43. B. Stefanovic, J.M. Warnking, K.M. Rylander, G.B. Pike, *The effect of global vasodilation on focal activation hemodynamics*, ISMRM 14th Scientific Meeting & Exhibition, Seattle, Washington, May 08-12, 2006.
44. C.L.L. Chia†, T.A. Bjarnason, A.L. MacKay, G.B. Pike, *Cross-site reproducibility of myelin water estimates*, ISMRM 14th Scientific Meeting & Exhibition, Seattle, Washington, May 08-12, 2006.
45. J.S.W. Campbell, P. Savadjiev, G.B. Pike, K. Siddiqi, *Regularized diffusion tensor MRI for high angular resolution ODF estimation and fibre tractography*, ISMRM 14th Scientific Meeting & Exhibition, Seattle, Washington, May 08-12, 2006.
46. B. Reniers, F. Verhaegen, *The microdosimetric parameters of low energy photons sources in brachytherapy*, American Brachytherapy Society meeting, Philadelphia, Pennsylvania, May 10-12, 2006.
47. B. Reniers, J-F Carrier, L. Beaulieu, F. Verhaegen, *Influence of tissue compositions on dose distributions for ¹²⁵I and ¹⁰³Pd seeds*, American Brachytherapy Society meeting, Philadelphia, Pennsylvania, May 10-12, 2006.
48. G. Jarry†, F. Verhaegen, *Une nouvelle méthode pour calculer la dose reçue par le patient basée sur l'imagerie portale électronique et des simulations de Monte Carlo*, 74th meeting of the Association Francophone pour le Savoir (ACFAS), Montréal, Québec, May 15-19, 2006.
49. M. Lemire, G. Hegyi, J. Seuntjens, F. Verhaegen, *Mesure de la dose de surface délivrée lors d'examen de tomодensitométrie à l'aide de dosimétrie de type MOSFET*, 74th meeting of the Association Francophone pour le Savoir (ACFAS), Montréal, Québec, May 15-19, 2006.
50. R. Zakikhani†, A. DuSautoy, H. Palmans, G. Bostock, D. Shipley, J. Seuntjens, F. Verhaegen, *Calculs et mesures de facteurs de perturbations pour des faisceaux d'électrons de haute énergie*, 74th Meeting of the Association Francophone pour le Savoir (ACFAS), Montréal, Québec, May 15-19, 2006.
51. F. DeBlois, S. Palefsky, F. Verhaegen, *RadSim: Un logiciel d'enseignement pour simuler les interactions de particules*, 74th Meeting of the Association Francophone pour le Savoir (ACFAS), Montréal, Québec, May 15-19, 2006.
52. M-J. Bertrand†, B. Reniers, F. Verhaegen, *Utilisation de films Gafchromic EBT en curiethérapie à faible débit de dose pour mesurer des distributions de dose autour de grains d'iode-125 dans un fantôme de sein*, 74th Meeting of the Association Francophone pour le Savoir (ACFAS), Montréal, Québec, May 15-19, 2006.
53. E. Poon†, S. Devic†, T. Vuong, F. Verhaegen, *Evaluation of a novel type of radiotherapy for colorectal cancer*, 5th annual Research Meeting, MUHC, Montréal, Québec, May 24, 2006.
54. D. Fraser†, C. Mark, F. Cury, A. Chang, F. DeBlois, M. Duclos, L. Souhami, G. Shenouda, T. Falco, F. Verhaegen, *Quantification and impact of inter-fraction prostate motion during radiation therapy*, 5th annual Research Meeting, MUHC, Montréal, Québec, May 24, 2006.

55. G. Jarry†, F. Verhaegen, *Improved radiotherapy of cancer patients with a novel dose delivery verification technique*, 5th annual Research Meeting, MUHC, Montréal, Québec, May 24, 2006.
56. K. Al-Yahya†, F. Verhaegen, J. Seuntjens, *Planning and automatic delivery of energy modulated electron therapy (EMET): A novel technique*, 52nd COMP Meeting, Saskatoon, Saskatchewan, May 31-June 03, 2006.
57. C. Duchesne†, M. Mondat, W. Wierzbicki, *Analytical model for electron arc beam output determination using an Elekta SL-25 linear accelerator*, annual meeting of the Canadian Organization of Medical Physicists (COMP), Saskatoon Cancer Center, Saskatoon, Saskatchewan, May 31-June 03, 2006.
58. M. Descoteaux, R. Deriche, P. Savadjiev, J.S.W. Campbell, G.B. Pike, K. Siddiqi, *Analytic ODF estimation and validation in q-ball imaging*, Organization for Human Brain Mapping 2006, Florence, Italy, June 11-15, 2006.
59. V. Woo, G. Leonard, M. Perron, L. Richer, S. Veillette, Z. Pausova, T. Paus, G.B. Pike, *Relationship between structural changes detected in MTR and VBM group analyses: The Sanguenay Youth Study*, Organization for Human Brain Mapping 2006, Florence, Italy, June 11-15, 2006.
60. I. Leppert, R. Almlı, R.C. McKinstry, R. Mulkern, C. Pierpaoli, M. Rivken, G.B. Pike, *The Brain Development Cooperative Group, Pediatric age-related T2 relaxometry in normal brain development*, Organization for Human Brain Mapping 2006, Florence, Italy, June 11-15, 2006.
61. C.J. Thompson, S. St-James, J. Suk†, *Identification of the first layer of interaction of gamma rays in multi-layer PET detectors*, Annual meeting of the Society of Nuclear Medicine, San Diego, California, June 2006 (#1509).
62. M-J. Bertrand, B. Reniers, F. Verhaegen, *Measured and calculated dose distribution around ¹²⁵I brachytherapy seeds in a breast phantom*, 48th Annual Meeting of AAPM, Orlando, Florida, July 30-August 03 2006.
63. M.D.C. Evans, M. Olivares, J. Seuntjens, W. Parker, S. Devic, E. Poli, C.R. Freeman, E.B. Podgorsak, *Rotational total skin electron irradiation using a commercially available linear accelerator with a high dose rate total body electron mode*, 48th annual meeting of the American Association of Physicists in Medicine (AAPM), July 30-August 03, 2006.
64. M. Bazalova†, S. Palefsky, L. Beaulieu, F. Verhaegen, *Correction of streaking artifacts in CT and its influence on Monte Carlo dose calculation*, 48th Annual Meeting of the American Association of Physicists in Medicine, Orlando, July 30-August 03, 2006.
65. Y. Wang, D. Lewis, E. Poon†, F. Verhaegen, E.B. Podgorsak, S. Devic, *Sensitivity of document scanners used for radiochromic film dosimetry*, 48th annual meeting of the American Association of Physicists in Medicine (AAPM), July 30-August 03, 2006.
66. G. Jarry†, F. Verhaegen, *In-vivo dosimetry using electronic portal imaging and Monte Carlo techniques*, 48th annual meeting of the American Association of Physicists in Medicine (AAPM), Orlando, FL, July 30-August 03, 2006.
67. W. Abdel-Rahman, S. Devic, J. Seuntjens, E.B. Podgorsak, *Accurate dosimetry in photon build-up region*, 48th annual meeting of the American Association of Physicists in Medicine (AAPM), July 30-August 03, 2006.
68. E. Sham†, S. Devic, J. Seuntjens, E.B. Podgorsak, *Focal source size measurement for Monte Carlo simulations of percentage depth doses in very small photon fields*, 48th annual meeting of the American Association of Physicists in Medicine (AAPM), July 30-August 03, 2006.
69. S. Devic, T. Vuong, M.D.C. Evans, E.B. Podgorsak, E. Poon†, F. Verhaegen, *HDR endorectal brachytherapy: Quality assurance*, 48th Annual Meeting of the American Association of Physicists in Medicine, Orlando, July 30- August 03, 2006.
70. M.J. Bertrand†, B. Reniers, F. Verhaegen, *Measured and calculated dose distribution around ¹²⁵I brachytherapy seeds in a breast phantom*, 48th Annual Meeting of the American Association of Physicists in Medicine, Orlando, July 30- August 03, 2006.

71. K. Al-Yahya†, S. Devic, F. Verhaegen, J. Seuntjens, *Construction and dosimetry of a prototype automated few-leaf electron collimator (FLEC) for delivery of energy-intensity modulated electron therapy*, 48th Annual Meeting of the American Association of Physicists in Medicine, Orlando, July 30- August 03, 2006.
72. E. Tryggestad, E. Armou, H. Deng, E. Ford, J. Huang, I. Iordachita, I. Kazanzides, C. Kennedy, T. McNutt, F. Verhaegen, J. Wong, *The small-animal radiation research platform (SARRP): Commissioning a 225 kVp “small-field” x-ray source for Monte Carlo-based treatment planning*, 48th Annual Meeting of the American Association of Physicists in Medicine, Orlando, July 30- August 03, 2006.
73. C.J. Thompson, J. Suk†, A. Karimian, *Optimization of the detectors for simultaneous PET/MRI imaging of the human brain*, World Congress of Medical Physics & Biomedical Engineering, Seoul, Korea, August 2006 (#3212).
74. A. Karimian, C.J. Thompson, *Assessment of using the new crystal LaBr3 in PET systems by Monte Carlo methods*, World Congress of Medical Physics & Biomedical Engineering, Seoul, Korea, August 2006 (#3216).
75. J. Suk†, C.J. Thompson, *Improving the sampling in a MicroPET R4 scanner by introducing a wobbling bed*, World Congress of Medical Physics & Biomedical Engineering, Seoul, Korea, August 2006 (#3218).
76. L. Fu†, V. Fonov, G.B. Pike, A.C. Evans, D.L. Collins, *Automated analysis of multi site MRI phantom data for the NIHPD Project*, Medical Image Computing and Computer Assisted Intervention (MICCAI), Copenhagen, October 01-06, 2006.
77. F. Verhaegen, C. Mark, D. Fraser†, F. Cury, A. Chang, F. DeBlois, M. Duclos, L. Souhami, G. Shenouda, T. Falco, *The use of 3D intra-modality ultrasound imaging for daily localization of the prostate in radiotherapy*, 25th ESTRO Meeting, Leipzig, Germany, October 08-12, 2006.
78. B. Reniers, M.J. Bertrand†, J-F. Carrier, L. Beaulieu, F. Verhaegen, *Influence of tissue compositions on dose distributions for ¹²⁵I and ¹⁰³Pd seed*, 25th ESTRO Meeting, Leipzig, Germany, October 08-12, 2006.
79. L. Beaulieu, J-F. Carrier, M. D'Amours, B. Reniers, F. Verhaegen, A. Martin, E. Vigneault, *Should Monte Carlo become the standard post-implant dose calculation method*, 25th ESTRO Meeting, Leipzig, Germany, October 08-12, 2006.
80. F. DeBlois, A. Alexander†, F. Verhaegen, J. Seuntjens, *McGill Monte Carlo treatment planning system (MMCTP): A software GUI for radiotherapy research*, First European Workshop on Monte Carlo Treatment Planning, Ghent, Belgium, October 22-25, 2006.
81. E. Klepousniotou, V. Gracco, K. Steinhauer, G.B. Pike, *Access and representation of homonymy and polysemy in the mental lexicon*, Fifth International Conference on the Mental Lexicon, Montréal, Québec, October 2006.
82. L. Beaulieu, J-F. Carrier, M. D'Amours, F. Verhaegen, A. Martin, E. Vigneault, *Post-implant dosimetry using a Monte Carlo dose engine: A new clinical standard*, 48th Annual ASTRO Meeting, Philadelphia, Pennsylvania, November 05-09, 2006.
83. A.L. Goetzen, J. Suk†, C.J. Thompson, *On the imaging of very weak sources in an LSO PET scanner*, IEEE MIC, San Diego, California, November 2006 (#M7-05).
84. J. Suk†, C.J. Thompson, A. Labuda, A.L. Goetzen, *Evaluation of the spatial resolution improvement of the MicroPET R4 scanner with wobbling bed*, IEEE MIC, San Diego, California, November 2006 (#M11-101).
85. K. Woch†, C.J. Thompson, J. Suk†, *Monitoring of and correction for subject's head movement during high resolution PET studies*, IEEE MIC, San Diego, California, November 2006 (#M11-350).
86. D.P. McElroy, A. Reznik, V. Saveliev, C.J. Thompson, W. Zhao, J.A. Rowlands, *Evaluation of silicon photo-multipliers for use as MR compatible PET detectors*, IEEE MIC, San Diego, California, November 2006 (#M14-39).