

APPENDIX XIII.

PUBLISHED ABSTRACTS

by members of the Medical Physics Unit : 2004 calendar year
(names of MPU staff members are underlined, students are indicated by †)

1. F. Verhaegen, C. Schulz, J.P. Seuntjens, M. Gosselin, D. Hristov, M. Svatos, *Heterogeneity corrected convolution dose calculation for KV X-rays versus Monte Carlo simulation*, Med. Phys **31**,1770 (2004).
2. K. Al-Yahya†, D. Hristov, F. Verhaegen, J.P. Seuntjens, *Monte Carlo based modulated electron beam inverse treatment planning and delivery using an automated few-leaf electron collimator*, Med. Phys. **31**, 1798 (2004).
3. N. Blais, M. Mondat, P. Munger, W. Wierzbicki, *Theoretical calculation and measurement of the attenuation in lead and steel of the primary and scattered radiation of a high dose rate source (iridium 192) in a treatment suite*, Med. Phys. **31**(6), 1818 (2004).
4. N. Blais, P. Munger, W. Wierzbicki, *The X,Y symmetry model for head scatter data approximation: The rectangular scatter integration model (RSI)*, Med. Phys. **31**(6), 1831 (2004).
5. S. Devic, C. Soares, J.P. Seuntjens, *Absorption spectra of improved GafChromic film types*, Med. Phys. **31**, 1837 (2004).
6. E. Heath†, G. Stroian†, J.P. Seuntjens, *Investigation of a passive infra-red tracking system for mapping internal anatomy deformation due to breathing*, Med. Phys. **31**, 1928 (2004).
7. N. Blais, M. Mondat, P. Munger, W. Wierzbicki, *Space distribution analysis of the attenuation in lead and steel of the scattered radiation in a maze of a high dose rate (iridium 192) brachytherapy suite*, La Physique au Canada **60**(3), 60 (2004).
8. N. Blais, P. Munger, W. Wierzbicki, *Evaluation of the rectangular scatter integration model*, La Physique au Canada **60**(3), 105 (2004).
9. M. Schwartz, T. Vuong, O. Ballivy, W. Parker, H.J. Patrocinio, E.B. Podgorsak, *Accelerated radiotherapy using a simultaneous integrated boost fractionation scheme and intensity-modulated radiotherapy delivery technique (SIB-IMRT) for advanced head and neck cancer*, Radio. & Oncol. **72**, S1 (2004).
10. S. Patel, T. Vuong, O Ballivy, L. Portelance, W. Parker, H.J. Patrocinio, *Intensity-modulated radiotherapy (IMRT) reduces acute toxicity in the treatment of rectal cancer: Results of a phase II study*, Radio. & Oncol. **72**, S33 (2004).
11. O. Ballivy, H.J. Patrocinio, T. Vuong, G. Shenouda, W. Parker, *Impact of geometric variations on dose distribution during intensity-modulated radiotherapy (IMRT) of head and neck cancer patients*, Department of Oncology, Division of Radiation Oncology and Medical Physics, McGill University, Radio. & Oncol. **72**, S54 (2004).
12. C. Janicki, P. Leblanc, S. Roorda, J. Raymond, O. Tousignant, *Dosimetry of P-32 coated Guglielmi detachable coils for endovascular treatment of intracranial aneurysms*, Med. Phys. **31**(6), 1881 (2004).
13. P. Leblanc, S. Roorda, J. Raymond, C. Janicki, A. Weill, D. Roy, F. Guilbert, L. Normandeau, *Endovascular treatment of intracranial aneurysms with radioactive coils: Initial clinical experiments*, Med. Phys. **31**(6), 1884 (2004).
14. O. Tousignant, J. Raymond, P. Leblanc, S. Roorda, C. Janicki, *Fabrication and characterization of beta activated coils for improving treatment of cerebral aneurysms*, Med. Phys. **31**(6), 1888 (2004).

15. C. Janicki, *VMDOSE: A multi-purpose dose calculation software for electron and photon emitters based on the MIRD formalism with S values evaluated at the voxel level*, Med. Phys. **31**(6), 1928 (2004).
16. J. Seco, A. Howard, F. Verhaegen, *Inter-comparison of electron Monte Carlo dose calculations for EGSnrc, GEANT and Penelope*, 10th MCNEG Meeting, Teddington, March 15-16, 2004.
17. H. Palmans, D. Shipley, R. Nutbrown, F. Verhaegen, *Inelastic nuclear interactions in Monte Carlo simulations for clinical proton beams*, 10th MCNEG Meeting, Teddington, March 15-16, 2004.
18. J.M. Warnking, G.B. Pike, *Minimizing the label gap using optimized RF pulses for PASL tagging*, ISMRM Perfusion Workshop, Venice, Italy, March 20-24, 2004.
19. G. Jarry†, F. Verhaegen, *Modelling of an ASi EPID using forward and inverse Monte Carlo techniques*, Workshop on Current Topics in Monte Carlo Treatment Planning, Montreal, May 3-5, 2004.
20. F. Verhaegen, S. Devic, *Sensitivity study for CT image use in Monte Carlo treatment planning*, Workshop on Current Topics in Monte Carlo Treatment Planning, Montreal, May 3-5, 2004.
21. E. Poon†, F. Verhaegen, *Validation of the Geant4 MC code for radiotherapy fluence and dose calculations*, Workshop on Current Topics in Monte Carlo Treatment Planning, Montreal, May 3-5, 2004.
22. C. Albaret†, F. DeBlois, F. Verhaegen, J.P. Seuntjens, *Automated system for Monte Carlo calculation of electron beam cutout factors*, Workshop on Current Topics in Monte Carlo Treatment Planning, Montreal, May 3-5, 2004.
23. J. Belec†, H.J. Patrocinio, F. Verhaegen, *Development of a Monte Carlo model for the Brainlab microMLC for stereotactic treatments*, Workshop on Current Topics in Monte Carlo Treatment Planning, Montreal, May 3-5, 2004.
24. V. Huang†, J.P. Seuntjens, M.D.C. Evans, M. Olivares, S. Devic, F. Verhaegen, *Experimental determination of electron source parameters for accurate Monte Carlo calculation of large field electron radiation therapy*, Workshop on Current Topics in Monte Carlo Treatment Planning, Montreal, May 3-5, 2004.
25. B. Reniers, F. Verhaegen, S. Vynckier, *Comparison of calculations with the EGSnrc and MCNP4C MC codes and measurements for the determination of radial functions for brachytherapy seeds*, Workshop on Current Topics in Monte Carlo Treatment Planning, Montreal, May 3-5, 2004.
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28. K. Al-Yahya†, D. Hristov, F. Verhaegen, J.P. Seuntjens, *Inverse Monte Carlo based electron beam treatment planning*, Workshop on Current Topics in Monte Carlo Treatment Planning, Montreal, May 3-5, 2004.
29. W. Abdel-Rahman, J. Seuntjens, F. Verhaegen, E.B. Podgorsak, *A study of the build-up region of megavoltage photon beams*, Workshop on Current Topics in Monte Carlo Treatment Planning, Montreal, May 3-5, 2004.
30. C. Albaret†, F. Verhaegen, F. DeBlois, J.P. Seuntjens, *Planification des traitements de radiothérapie par électrons à l'aide de la méthode Monte-Carlo*, 72nd Meeting of the Association Francophone pour le Savoir (ACFAS), Montreal, May 10-14, 2004.
31. C. Boudreau†, E. Heath†, W. Parker, J.P. Seuntjens, *La planification des traitements de radiothérapie par électrons à l'aide de la méthode Monte Carlo*, 72nd Meeting of the Association Francophone pour le Savoir (ACFAS), Montreal, May 10-14, 2004.

32. G. Stroian†, E. Heath†, J.P. Seuntjens, *Localisation en infrarouge de marqueurs réfléchissants externes pendant le monitoring du mouvement d'organes internes en radiothérapie*, 72nd Meeting of the Association Francophone pour le Savoir (ACFAS), Montreal, May 10-14, 2004.
33. J. Belec†, H.J. Patrocínio, F. Verhaegen, *Une approche Monte Carlo pour la validation d'un algorithme de faisceaux étroits utilisé pour la planification de traitement en radiochirurgie avec champs conformes statiques*, 72nd Meeting of the Association Francophone pour le Savoir (ACFAS), Montreal, May 10-14, 2004.
34. F. Verhaegen, B. Reniers, *Cluster damage analysis from Monte Carlo simulations for mammography x-rays*, Regional Radiation Sciences Meeting, Ottawa, May 12, 2004.
35. B. Stefanovic, J.M. Warnking, G.B. Pike, *Neuronal inhibition induces downregulation of flow and metabolism*, ISMRM 12th Scientific Meeting and Exhibition, Kyoto, Japan, May 15-21, 2004.
36. B. Stefanovic, G.B. Pike, *Quantifying the intravascular SE BOLD effect at 1.5T*, ISMRM 12th Scientific Meeting and Exhibition, Kyoto, Japan, May 15-21, 2004.
37. J.S.W. Campbell, K. Siddiqi, G.B. Pike, *Full-brain Q-ball imaging in a clinically acceptable time: Application to white matter fibre tractography*, ISMRM 12th Scientific Meeting and Exhibition, Kyoto, Japan, May 15-21, 2004.
38. J.S.W. Campbell, K. Siddiqi, V. Rymar, A.F. Sadikot, G.B. Pike, *Comparison of flow- and streamline-based fibre tracking algorithms using an anisotropic diffusion phantom*, ISMRM 12th Scientific Meeting and Exhibition, Kyoto, Japan, May 15-21, 2004.
39. J.M. Warnking, G.B. Pike, *A bandwidth-modulated adiabatic RF pulse for highly selective saturation and inversion (BASSI)*, ISMRM 12th Scientific Meeting and Exhibition, Kyoto, Japan, May 15-21, 2004.
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42. B. Stefanovic, G.B. Pike, *Spin-spin relaxometry of blood at 1.5T*, 10th Annual Meeting of the Organization for Human Brain Mapping, Budapest, Hungary, June 13-17, 2004.
43. B. Stefanovic, G.B. Pike, *Perfusion and oxygen consumption changes with neuronal inhibition*, 10th Annual Meeting of the Organization for Human Brain Mapping, Budapest, Hungary, June 13-17, 2004.
44. The MIDAS Consortium: F. Boada, L. Collins, I. Drobnjak, W. Eddy, A. Evans, M. Griffin, M. Jenkinson, D. Noll, G.B. Pike, H. Shi, D. Shroff, V.A. Stenger, K. Worsley, *MIDAS: A multi-site fMRI simulator consortium*, 10th Annual Meeting of the Organization for Human Brain Mapping, Budapest, Hungary, June 13-17, 2004.
45. J.M. Warnking, G.B. Pike, *Bandwidth-modulated RF pulses for pulsed ASL measurement of CBF*, 10th Annual Meeting of the Organization for Human Brain Mapping, Budapest, Hungary, June 13-17, 2004.
46. M.P. Griffin, G.B. Pike, *Spatial distribution of the respiratory component of the fMRI magnitude and phase*, 10th Annual Meeting of the Organization for Human Brain Mapping, Budapest, Hungary, June 13-17, 2004.
47. V.L. Gracco, P. Tremblay, G.B. Pike, *Some observations on serial speech timing*, 10th Annual Meeting of the Organization for Human Brain Mapping, Budapest, Hungary, June 13-17, 2004.
48. P. Tremblay, V.L. Gracco, G.B. Pike, *A neural mechanism for speech motor control: Evidence for efference copy*, 10th Annual Meeting of the Organization for Human Brain Mapping, Budapest, Hungary, June 13-17, 2004.
49. H. Palmans, R. Thomas, M. Simon, S. Duane, A. Kacperek, A. DuSautoy, F. Verhaegen, *Proton W_{air} value derived from comparing graphite calorimetry with ionisation chamber dosimetry in an ocular beam*, 40th PTCOG Meeting, Paris, France, June 16-18, 2004.

50. G. Jarry†, F. Verhaegen, *Modelling of an ASi EPID using forward and inverse Monte Carlo techniques and its applications in patient dosimetry*, 8th International Workshop on Electronic Portal Imaging, University of Sussex, Brighton, UK, June 29-July 1, 2004.
51. S. Flampouri, P.M. Evans, A.L. Fielding, M. Partridge, F. Verhaegen, *Investigation of megavoltage beams and detectors for electronic portal imaging*, 46th Annual Meeting of the American Association of Physicists in Medicine, Pittsburgh July 25-29, 2004.
52. K. Al-Yahya†, D. Hristov, F. Verhaegen, J.P. Seuntjens. *Monte Carlo-based modulated electron beam inverse treatment planning and delivery using an automated few-leaf electron collimator*, 46th Annual Meeting of the American Association of Physicists in Medicine, Pittsburgh, July 25-29, 2004.
53. J. Belec†, H.J. Patrocinio, F. Verhaegen, *A Monte Carlo approach to the validation of a pencil beam algorithm used in the treatment planning for static conformal beam radiosurgery*, 46th Annual Meeting of the American Association of Physicists in Medicine, Pittsburgh July 25-29, 2004. (AAPM Young Investigator Symposium Finalist).
54. B. Reniers, F. Verhaegen, S. Vynckier. *Microdosimetric study and cluster analysis of ¹⁰³Pd and ¹²⁵I*, Regional Radiation Sciences Meeting, Montreal, October 3, 2004.
55. S. Lehnert, B. Reniers, F. Verhaegen, *Relative biological efficiency in terms of tumor response of ¹²⁵I seeds compared to ⁶⁰Co gamma rays*, Regional Radiation Sciences Meeting, Montreal, October 3, 2004.
56. P. Dunscombe, C. Arsenault, J-P. Bissonnette, H. Johnson, G. Mawko, J.P. Seuntjens, *The development of national quality control standards for radiotherapy equipment in Canada*, Radioth. Oncol. , S422, 2004. (Abstract Book of the 23rd meeting of the European Society for Therapeutic Radiology Oncology.)
57. S. Sirois, M.D.C. Evans, E. Roussin, C. Freeman, *An analysis of lung attenuator displacement for photon total body irradiation*, Proceedings of the 23rd European Society of Therapeutic Radiology, Amsterdam, Netherlands, October 25-28, 2004.