Publications

Peer-reviewed publications:

[1] E. Heath, **J. Unkelbach**, and U. Oelfke. Incorporating uncertainties in respiratory motion into 4D treatment plan optimization. *Med. Phys.*, 36, 2009. accepted.

[2] **J. Unkelbach**, Sun Yi, and J. Schmidhuber. An EM based training algorithm for recurrent neural networks. *Proc. Int. Conf. on Artificial Neural Networks (ICANN)*, 2009. accepted.

[3] **J. Unkelbach**, B. Martin, M. Soukup, and T. Bortfeld. Reducing the sensitivity of IMPT treatment plans to setup errors and range uncertainties via probabilistic treatment planning. *Med. Phys.*, 36:149–163, 2009.

[4] C. Orton, T. Bortfeld, A. Niemierko, and **J. Unkelbach** The role of medical physicists and the AAPM in the development of treatment planning and optimization. *Med. Phys.*, 35:4911-4923, 2008.

[5] **J. Unkelbach**, T. C. Y. Chan, and T. Bortfeld. Accounting for range uncertainties in the optimization of intensity modulated proton therapy. *Phys. Med. Biol.*, 52:2755–2773, 2007.

[6] **J. Unkelbach** and U. Oelfke. Relating two techniques for handling uncertainties in IMRT optimization. *Phys. Med. Biol.*, 51:N423–N427, 2006.

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[9] **J. Unkelbach** and U. Oelfke. Incorporating organ movements in IMRT treatment planning for prostate cancer: Minimizing uncertainties in the inverse planning process. *Med. Phys.*, 32(8):2471–83, 2005.

[10] S. Nill, **J. Unkelbach**, L. Dietrich, and U. Oelfke. Online correction for respiratory motion: evaluation of two imaging geometries. *Phys. Med. Biol.*, 50(17):4087–4096, 2007.

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[15] J. Unkelbach. *Rüeckkopplungsgesteuerte transversale Dynamik der resonanten Tunneldiode*. Diplomarbeit, Technische Universität Berlin, 2002. Available on request (in german).

Technical reports:

[16] J. Unkelbach. Direct aperture optimization for proton therapy using a multi leaf collimator. Report number 2005-01, Massachusetts General Hospital, Boston, MA, USA, 2005. Available at http://gray.mgh.harvard.edu/content/dmdocuments/Unkelbach.pdf.

Conference Abstracts (presenting author):

[17] J. Unkelbach, B. Martin, and T. Bortfeld. Why the safety margin concept is insufficient in particle therapy. *Proc. PTCOG*, Jacksonville, FL, USA, 2008.

[18] J. Unkelbach, B. Martin, and T. Bortfeld. Design of a Next Generation Treatment Planning System That Incorporates Motion and Uncertainty in Inverse Planning. *Proc. 50th AAPM conference*, Houston, TX, USA, 2008.

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