

References

- [1] P. W. Miller, N. J. Long, R. Vilar, and A. D. Gee, "Synthesis of ^{11}C , ^{18}F , ^{15}O , and ^{13}N radiolabels for positron emission tomography," *Angew Chem Int Ed Engl*, 47:8998–9033, 2008.
- [2] P. Suetens, *Fundamentals of medical imaging*. Cambridge University Press, second ed., 2009.
- [3] J. A. Blokland, P. Trindev, M. P. Stokkel, and E. K. Pauwels, "Positron emission tomography: a technical introduction for clinicians," *Eur J Radiol*, 44:70–5, 2002.
- [4] S. R. Cherry, J. A. Sorenson, and M. E. Phelps, *Physics in nuclear medicine*. Saunders, third ed., 2003.
- [5] J. L. Prince and J. M. Links, *Medical imaging signals and systems*. Pearson Education, Inc., 2006.
- [6] R. Boellaard, A. van Lingen, and A. A. Lammertsma, "Experimental and clinical evaluation of iterative reconstruction (OSEM) in dynamic PET: quantitative characteristics and effects on kinetic modeling," *J Nucl Med*, 42:808–17, 2001.
- [7] X. Geets, J. A. Lee, A. Bol, M. Lonneux, and V. Gregoire, "A gradient-based method for segmenting FDG-PET images: methodology and validation," *Eur J Nucl Med Mol Imaging*, 34:1427–38, 2007.
- [8] Integraal Kanker Centrum, "Cijfers over kanker in nederland- maart 2011." http://www.ikcnet.nl/page.php?id=3113&nav_id=114.
- [9] Y. E. Erdi, "The use of PET for radiotherapy," *Current Medical Imaging Reviews*, 3:3–16, 2007.
- [10] M. MacManus, U. Nestle, K. E. Rosenzweig, I. Carrio, C. Messa, O. Belohlavek, M. Danna, T. Inoue, E. iaud Alexandre, S. Schipani, N. Watanabe, M. Dondi, and B. Jeremic, "Use of PET and PET/CT for radiation therapy planning: IAEA expert report 2006-2007," *Radiother Oncol*, 91:85–94, 2009.
- [11] W. de Wever, S. Stroobants, J. Coolen, and J. A. Verschakelen, "Integrated PET/CT in the staging of non-small cell lung cancer: technical aspects and clinical integration," *Eur Respir J*, 33:201–12, 2009.
- [12] I. P. C. Murray and P. J. Ell, *Nuclear medicine in clinical diagnosis and treatment*. Churchill Livingstone, 1994.
- [13] O. Warburg, "On the origin of cancer cells," *Science*, 123:309–14, 1956.
- [14] R. Kubota, S. Yamada, K. Kubota, K. Ishiwata, N. Tamahashi, and T. Ido, "Intratumoral distribution of fluorine-18-fluorodeoxyglucose in vivo: high accumulation in macrophages and granulation tissues studied by microautoradiography," *J Nucl Med*, 33:1972–80, 1992.
- [15] H. Guo, H. Zhu, Y. Xi, B. Zhang, L. Li, Y. Huang, J. Zhang, Z. Fu, G. Yang, S. Yuan, and J. Yu, "Diagnostic and prognostic value of ^{18}F -FDG PET/CT for patients with suspected recurrence from squamous cell carcinoma of the esophagus," *J Nucl Med*, 48:1251–8, 2007.
- [16] Y. Yamamoto, Y. Nishiyama, S. Ishikawa, J. Nakano, S. S. Chang, S. Bandoh, N. Kanaji, R. Haba, Y. Kushida, and M. Ohkawa, "Correlation of ^{18}F -FLT and ^{18}F -FDG uptake on PET with Ki-67 immunohistochemistry in non-small cell lung cancer," *Eur J Nucl Med Mol Imaging*, 34:1610–6, 2007.
- [17] S. C. Huang, "Anatomy of SUV. Standardized uptake value," *Nucl Med Biol*, 27:643–6, 2000.
- [18] W. A. Weber, "Use of PET for monitoring cancer therapy and for predicting outcome," *J Nucl Med*, 46:983–95, 2005.
- [19] R. Boellaard, "Standards for PET image acquisition and quantitative data analysis," *J Nucl Med*, 50 Suppl 1:S11–20, 2009.
- [20] L. K. Shankar, J. M. Hoffman, S. Bacharach, M. M. Graham, J. Karp, A. A. Lammertsma, S. Larson, D. A. Mankoff, B. A. Siegel, A. V. den Abbeele, J. Yap, and D. Sullivan, "Consensus recommendations for the use of ^{18}F -FDG PET as an indicator of therapeutic response in patients in National Cancer Institute Trials," *J Nucl Med*, 47:1059–66, 2006.
- [21] H. Young, R. Baum, U. Cremerius, K. Herholz, O. Hoekstra, A. A. Lammertsma, J. Pruim, and P. Price, "Measurement of clinical and subclinical tumour response

References

- using [^{18}F]-fluorodeoxyglucose and positron emission tomography: review and 1999 EORTC recommendations. European Organization for Research and Treatment of Cancer (EORTC) PET Study Group," *Eur J Cancer*, 35:1773–82, 1999.
- [22] A. A. Lammertsma, C. J. Hoekstra, G. Giaccone, and O. S. Hoekstra, "How should we analyse FDG PET studies for monitoring tumour response?," *Eur J Nucl Med Mol Imaging*, 33 Suppl 1:16–21, 2006.
- [23] R. Boellaard, M. J. O'Doherty, W. A. Weber, F. M. Mottaghy, M. N. Lonsdale, S. G. Stroobants, W. J. Oyen, J. Kotzerke, O. S. Hoekstra, J. Pruim, P. K. Marsden, K. Tatsch, C. J. Hoekstra, E. P. Visser, B. Arends, F. J. Verzijlbergen, J. M. Zijlstra, E. F. Comans, A. A. Lammertsma, A. M. Paans, A. T. Willemsen, T. Beyer, A. Bockisch, C. Schaefer-Prokop, D. Delbeke, R. P. Baum, A. Chiti, and B. J. Krause, "FDG PET and PET/CT: EANM procedure guidelines for tumour PET imaging: version 1.0," *Eur J Nucl Med Mol Imaging*, 37:181–200, 2010.
- [24] C. J. Hoekstra, I. Paglianiti, O. S. Hoekstra, E. F. Smit, P. E. Postmus, G. J. Teule, and A. A. Lammertsma, "Monitoring response to therapy in cancer using [^{18}F]-2-fluoro-2-deoxy-D-glucose and positron emission tomography: an overview of different analytical methods," *Eur J Nucl Med*, 27:731–43, 2000.
- [25] S. F. Petit, W. J. van Elmpt, C. J. Oberije, E. Vegt, A. M. Dingemans, P. Lambin, A. L. Dekker, and D. de Ruyscher, "[^{18}F]fluorodeoxyglucose uptake patterns in lung before radiotherapy identify areas more susceptible to radiation-induced lung toxicity in non-small-cell lung cancer patients," *Int J Radiat Oncol Biol Phys*, 81:698–705, 2011.
- [26] L. F. de Geus-Oei, H. F. van der Heijden, F. H. Corstens, and W. J. Oyen, "Predictive and prognostic value of FDG-PET in non-small-cell lung cancer: a systematic review," *Cancer*, 110:1654–64, 2007.
- [27] U. Nestle, S. Kremp, A. Schaefer-Schuler, C. Sebastian-Welsch, D. Hellwig, C. Rube, and C. M. Kirsch, "Comparison of different methods for delineation of ^{18}F -FDG PET-positive tissue for target volume definition in radiotherapy of patients with non-small cell lung cancer," *J Nucl Med*, 46:1342–8, 2005.
- [28] M. Wanet, J. A. Lee, B. Weynand, M. de Bast, A. Poncelet, V. Lacroix, E. Coche, V. Gregoire, and X. Geets, "Gradient-based delineation of the primary GTV on FDG-PET in non-small cell lung cancer: a comparison with threshold-based approaches, CT and surgical specimens," *Radiother Oncol*, 98:117–25, 2011.
- [29] A. C. Paulino, M. Koshy, R. Howell, D. Schuster, and L. W. Davis, "Comparison of CT- and FDG-PET-defined gross tumor volume in intensity-modulated radiotherapy for head-and-neck cancer," *Int J Radiat Oncol Biol Phys*, 61:1385–92, 2005.
- [30] R. Boellaard, N. C. Krak, O. S. Hoekstra, and A. A. Lammertsma, "Effects of noise, image resolution, and ROI definition on the accuracy of standard uptake values: a simulation study," *J Nucl Med*, 45:1519–27, 2004.
- [31] A. Schaefer, S. Kremp, D. Hellwig, C. Rube, C. M. Kirsch, and U. Nestle, "A contrast-oriented algorithm for FDG-PET-based delineation of tumour volumes for the radiotherapy of lung cancer: derivation from phantom measurements and validation in patient data," *Eur J Nucl Med Mol Imaging*, 35:1989–99, 2008.
- [32] J. A. van Dalen, A. L. Hoffmann, V. Dicken, W. V. Vogel, B. Wiering, T. J. Ruers, N. Karssemeijer, and W. J. Oyen, "A novel iterative method for lesion delineation and volumetric quantification with FDG PET," *Nucl Med Commun*, 28:485–93, 2007.
- [33] U. Nestle, W. Weber, M. Hentschel, and A. L. Grosu, "Biological imaging in radiation therapy: role of positron emission tomography," *Phys Med Biol*, 54:R1–25, 2009.
- [34] H. Zaidi and I. E. Naqa, "PET-guided delineation of radiation therapy treatment volumes: a survey of image segmentation techniques," *Eur J Nucl Med Mol Imaging*, 37:2165–87, 2010.
- [35] M. Hatt, C. C. le Rest, N. Albarghach, O. Pradier, and D. Visvikis, "PET functional volume delineation: a robustness and repeatability study," *Eur J Nucl Med Mol Imaging*, 38:663–72, 2011.
- [36] N. E. Avril and W. A. Weber, "Monitoring response to treatment in patients utilizing PET," *Radiol Clin North Am*, 43:189–204, 2005.
- [37] E. Bastiaannet, H. Groen, P. L. Jager, D. C. Cobben, W. T. van der Graaf, W. Vaalburg, and H. J. Hoekstra, "The value of FDG-PET in the detection, grading and response to

- therapy of soft tissue and bone sarcomas; a systematic review and meta-analysis," *Cancer Treat Rev*, 30:83–101, 2004.
- [38] J. W. Fletcher, B. Djulbegovic, H. P. Soares, B. A. Siegel, V. J. Lowe, G. H. Lyman, R. E. Coleman, R. Wahl, J. C. Paschold, N. Avril, L. H. Einhorn, W. W. Suh, D. Samson, D. Delbeke, M. Gorman, and A. F. Shields, "Recommendations on the use of ^{18}F -FDG PET in oncology," *J Nucl Med*, 49:480–508, 2008.
- [39] C. J. Hoekstra, S. G. Stroobants, E. F. Smit, J. Vansteenkiste, H. van Tinteren, P. E. Postmus, R. P. Golding, B. Biesma, F. J. Schramel, N. van Zandwijk, A. A. Lammertsma, and O. S. Hoekstra, "Prognostic relevance of response evaluation using [^{18}F]-2-fluoro-2-deoxy-D-glucose positron emission tomography in patients with locally advanced non-small-cell lung cancer," *J Clin Oncol*, 23:8362–70, 2005.
- [40] M. E. Juweid, S. Stroobants, O. S. Hoekstra, F. M. Mottaghy, M. Dietlein, A. Guermazi, G. A. Wiseman, L. Kostakoglu, K. Scheidhauer, A. Buck, R. Naumann, K. Spaepen, R. J. Hicks, W. A. Weber, S. N. Reske, M. Schwaiger, L. H. Schwartz, J. M. Zijlstra, B. A. Siegel, and B. D. Cheson, "Use of positron emission tomography for response assessment of lymphoma: consensus of the Imaging Subcommittee of International Harmonization Project in Lymphoma," *J Clin Oncol*, 25:571–8, 2007.
- [41] J. F. Vansteenkiste and S. G. Stroobants, "The role of positron emission tomography with ^{18}F -fluoro-2-deoxy-D-glucose in respiratory oncology," *Eur Respir J*, 17:802–20, 2001.
- [42] G. R. Borst, J. S. Belderbos, R. Boellaard, E. F. Comans, K. de Jaeger, A. A. Lammertsma, and J. V. Lebesque, "Standardised FDG uptake: a prognostic factor for inoperable non-small cell lung cancer," *Eur J Cancer*, 41:1533–41, 2005.
- [43] C. J. Hoekstra, O. S. Hoekstra, S. G. Stroobants, J. Vansteenkiste, J. Nuyts, E. F. Smit, M. Boers, J. W. Twisk, and A. A. Lammertsma, "Methods to monitor response to chemotherapy in non-small cell lung cancer with ^{18}F -FDG PET," *J Nucl Med*, 43:1304–9, 2002.
- [44] B. D. Cheson, B. Pfistner, M. E. Juweid, R. D. Gascoyne, L. Specht, S. J. Horning, B. Coiffier, R. I. Fisher, A. Hagenbeek, E. Zucca, S. T. Rosen, S. Stroobants, T. A. Lister, R. T. Hoppe, M. Dreyling, K. Tobinai, J. M. Vose, J. M. Connors, M. Federico, and V. Diehl, "Revised response criteria for malignant lymphoma," *J Clin Oncol*, 25:579–86, 2007.
- [45] M. E. Juweid and B. D. Cheson, "Positron-emission tomography and assessment of cancer therapy," *N Engl J Med*, 354:496–507, 2006.
- [46] G. J. Hunter, L. M. Hamberg, N. M. Alpert, N. C. Choi, and A. J. Fischman, "Simplified measurement of deoxyglucose utilization rate," *J Nucl Med*, 37:950–5, 1996.
- [47] N. Sadato, T. Tsuchida, S. Nakaumra, A. Waki, H. Uematsu, N. Takahashi, N. Hayashi, Y. Yonekura, and Y. Ishii, "Non-invasive estimation of the net influx constant using the standardized uptake value for quantification of FDG uptake of tumours," *Eur J Nucl Med*, 25:559–64, 1998.
- [48] N. M. Freedman, S. K. Sundaram, K. Kurdziel, J. A. Carrasquillo, M. Whatley, J. M. Carson, D. Sellers, S. K. Libutti, J. C. Yang, and S. L. Bacharach, "Comparison of SUV and Patlak slope for monitoring of cancer therapy using serial PET scans," *Eur J Nucl Med Mol Imaging*, 30:46–53, 2003.
- [49] C. K. Kim and N. C. Gupta, "Dependency of standardized uptake values of fluorine-18 fluorodeoxyglucose on body size: comparison of body surface area correction and lean body mass correction," *Nucl Med Commun*, 17:890–4, 1996.
- [50] G. M. McDermott, A. Welch, R. T. Staff, F. J. Gilbert, L. Schweiger, S. I. Semple, T. A. Smith, A. W. Hutcheon, I. D. Miller, I. C. Smith, and S. D. Heys, "Monitoring primary breast cancer throughout chemotherapy using FDG-PET," *Breast Cancer Res Treat*, 102:75–84, 2007.
- [51] R. K. Doot, L. K. Dunnwald, E. K. Schubert, M. Muzi, L. M. Peterson, P. E. Kinahan, B. F. Kurland, and D. A. Mankoff, "Dynamic and static approaches to quantifying ^{18}F -FDG uptake for measuring cancer response to therapy, including the effect of granulocyte CSF," *J Nucl Med*, 48:920–5, 2007.
- [52] D. A. Mankoff, M. Muzi, and K. A. Krohn, "Quantitative positron emission tomography imaging to measure tumor response to therapy: what is the best method?," *Mol Imaging Biol*, 5:281–5, 2003.

References

- [53] R. Boellaard, W. J. Oyen, C. J. Hoekstra, O. S. Hoekstra, E. P. Visser, A. T. Willemsen, B. Arends, F. J. Verzijlbergen, J. Zijlstra, A. M. Paans, E. F. Comans, and J. Pruim, "The Netherlands protocol for standardisation and quantification of FDG whole body PET studies in multi-centre trials," *Eur J Nucl Med Mol Imaging*, 35:2320–33, 2008.
- [54] G. Brix, J. Zaers, L. E. Adam, M. E. Bellemann, H. Ostertag, H. Trojan, U. Haberkorn, J. Doll, F. Oberdorfer, and W. J. Lorenz, "Performance evaluation of a whole-body PET scanner using the NEMA protocol. National Electrical Manufacturers Association," *J Nucl Med*, 38:1614–23, 1997.
- [55] A. P. van der Weerd, L. J. Klein, R. Boellaard, C. A. Visser, F. C. Visser, and A. A. Lammertsma, "Image-derived input functions for determination of MRGlu in cardiac ^{18}F -FDG PET scans," *J Nucl Med*, 42:1622–9, 2001.
- [56] L. M. Velasquez, R. Boellaard, G. Kollia, W. Hayes, O. S. Hoekstra, A. A. Lammertsma, and S. M. Galbraith, "Repeatability of ^{18}F -FDG PET in a multicenter phase I study of patients with advanced gastrointestinal malignancies," *J Nucl Med*, 50:1646–54, 2009.
- [57] J. F. Eary and D. A. Mankoff, "Tumor metabolic rates in sarcoma using FDG PET," *J Nucl Med*, 39:250–4, 1998.
- [58] K. S. Dai, D. Y. Tai, P. Ho, C. C. Chen, W. C. Peng, S. T. Chen, C. C. Hsu, Y. P. Liu, H. C. Hsieh, C. C. Yang, M. C. Tsai, and S. J. Mao, "Accuracy of the EasyTouch blood glucose self-monitoring system: a study of 516 cases," *Clin Chim Acta*, 349:135–41, 2004.
- [59] S. K. Sundaram, N. M. Freedman, J. A. Carrasquillo, J. M. Carson, M. Whatley, S. K. Libutti, D. Sellers, and S. L. Bacharach, "Simplified kinetic analysis of tumor ^{18}F -FDG uptake: a dynamic approach," *J Nucl Med*, 45:1328–33, 2004.
- [60] S. Roels, P. Slagmolen, J. Nuyts, J. A. Lee, D. Loeckx, F. Maes, S. Stroobants, F. Penninckx, and K. Haustermans, "Biological image-guided radiotherapy in rectal cancer: is there a role for FMISO or FLT, next to FDG?," *Acta Oncol*, 47:1237–48, 2008.
- [61] M. Hatt, D. Visvikis, and C. C. le Rest, "Autocontouring versus manual contouring," *J Nucl Med*, 52:658–9, 2011.
- [62] S. Surti, A. Kuhn, M. E. Werner, A. E. Perkins, J. Kolthammer, and J. S. Karp, "Performance of Philips Gemini TF PET/CT scanner with special consideration for its time-of-flight imaging capabilities," *J Nucl Med*, 48:471–80, 2007.
- [63] J. F. Daisne, M. Sibomana, A. Bol, T. Doumont, M. Lonnew, and V. Gregoire, "Three-dimensional automatic segmentation of PET volumes based on measured source-to-background ratios: influence of reconstruction algorithms," *Radiother Oncol*, 69:247–50, 2003.
- [64] F. Hofheinz, S. Dittrich, C. Potzsch, and J. Hoff, "Effects of cold sphere walls in PET phantom measurements on the volume reproducing threshold," *Phys Med Biol*, 55:1099–113, 2010.
- [65] A. K. Buck, M. Hetzel, H. Schirrmeister, G. Halter, P. Moller, C. Kratochwil, A. Wahl, G. Glatting, F. M. Mottaghy, T. Mattfeldt, B. Neumaier, and S. N. Reske, "Clinical relevance of imaging proliferative activity in lung nodules," *Eur J Nucl Med Mol Imaging*, 32:525–33, 2005.
- [66] V. Frings, A. J. de Langen, E. F. Smit, F. H. P. van Velden, O. S. Hoekstra, H. van Tinteren, and R. Boellaard, "Repeatability of metabolically active volume measurements with ^{18}F -FDG and ^{18}F -FLT PET in non-small cell lung cancer," *J Nucl Med*, 51:1870–7, 2010.
- [67] M. Hatt, C. C. le Rest, E. O. Aboagye, L. M. Kenny, L. Rosso, F. E. Turkheimer, N. M. Albarghach, J. P. Metges, O. Pradier, and D. Visvikis, "Reproducibility of ^{18}F -FDG and $3'$ -deoxy- $3'$ - ^{18}F -fluorothymidine PET tumor volume measurements," *J Nucl Med*, 51:1368–76, 2010.
- [68] P. Cheebsumon, M. Yaqub, F. H. P. van Velden, O. S. Hoekstra, A. A. Lammertsma, and R. Boellaard, "Impact of ^{18}F FDG PET image characteristics on automatic metabolic volume assessment [abstract]," *Eur J Nucl Med Mol Imaging*, 37(suppl 2):261s, 2010.
- [69] A. J. de Langen, B. Klabbbers, M. Lubberink, R. Boellaard, M. D. Spreeuwenberg, B. J. Slotman, R. de Bree, E. F. Smit, O. S. Hoekstra, and A. A. Lammertsma, "Reproducibility of quantitative ^{18}F - $3'$ -deoxy- $3'$ -fluorothymidine measurements using positron emission tomography," *Eur J Nucl Med Mol Imaging*, 36:389–95, 2009.
- [70] D. Han, J. Yu, Y. Yu, G. Zhang, X. Zhong, J. Lu, Y. Yin, Z. Fu, D. Mu, B. Zhang, W. He,

- Z. Huo, X. Liu, L. Kong, S. Zhao, and X. Sun, "Comparison of ^{18}F -fluorothymidine and ^{18}F -fluorodeoxyglucose PET/CT in delineating gross tumor volume by optimal threshold in patients with squamous cell carcinoma of thoracic esophagus," *Int J Radiat Oncol Biol Phys*, 76:1235–41, 2010.
- [71] A. van Baardwijk, G. Bosmans, L. Boersma, J. Buijsen, S. Wanders, M. Hochstenbag, R. J. van Suylen, A. Dekker, C. hng Oberije, R. Houben, S. M. Bentzen, M. van Kroonenburgh, P. Lambin, and D. de Ruyscher, "PET-CT-based auto-contouring in non-small-cell lung cancer correlates with pathology and reduces interobserver variability in the delineation of the primary tumor and involved nodal volumes," *Int J Radiat Oncol Biol Phys*, 68:771–8, 2007.
- [72] M. Hatt, D. Visvikis, N. M. Albarghach, F. Tixier, O. Pradier, and C. C. le Rest, "Prognostic value of ^{18}F -FDG PET image-based parameters in oesophageal cancer and impact of tumour delineation methodology," *Eur J Nucl Med Mol Imaging*, 38:1191–202, 2011.
- [73] P. Cheebsumon, F. H. P. van Velden, M. Yaqub, V. Frings, A. J. de Langen, O. S. Hoekstra, A. A. Lammertsma, and R. Boellaard, "Effects of image characteristics on performance of tumor delineation methods: a test-retest assessment," *J Nucl Med*, 52:1550–8, 2011.
- [74] P. Cheebsumon, M. Yaqub, F. H. P. van Velden, O. S. Hoekstra, A. A. Lammertsma, and R. Boellaard, "Impact of [^{18}F]FDG PET imaging parameters on automatic tumour delineation: need for improved tumour delineation methodology," *Eur J Nucl Med Mol Imaging*, 38:2136–44, 2011.
- [75] M. Hatt, C. C. le Rest, P. Descourt, A. Dekker, D. de Ruyscher, M. Oellers, P. Lambin, O. Pradier, and D. Visvikis, "Accurate automatic delineation of heterogeneous functional volumes in positron emission tomography for oncology applications," *Int J Radiat Oncol Biol Phys*, 77:301–8, 2010.
- [76] J. Yu, X. Li, L. Xing, D. Mu, Z. Fu, X. Sun, X. Sun, G. Yang, B. Zhang, X. Sun, and C. C. Ling, "Comparison of tumor volumes as determined by pathologic examination and FDG-PET/CT images of non-small-cell lung cancer: a pilot study," *Int J Radiat Oncol Biol Phys*, 75:1468–74, 2009.
- [77] K. Wu, Y. C. Ung, J. Hornby, M. Freeman, D. Hwang, M. S. Tsao, M. Dahele, G. Darling, D. E. Maziak, R. Tirona, K. Mah, and C. S. Wong, "PET CT thresholds for radiotherapy target definition in non-small-cell lung cancer: how close are we to the pathologic findings?," *Int J Radiat Oncol Biol Phys*, 77:699–706, 2010.
- [78] C. Siedschlag, J. van Loon, A. van Baardwijk, M. M. Rossi, R. van Pel, J. L. Blaauwgeers, R. J. van Suylen, L. Boersma, J. Stroom, and K. G. Gilhuijs, "Analysis of the relative deformation of lung lobes before and after surgery in patients with NSCLC," *Phys Med Biol*, 54:5483–92, 2009.
- [79] E. P. Visser, M. E. Philippens, L. Kienhorst, J. H. Kaanders, F. H. Corstens, L. F. de Geus-Oei, and W. J. Oyen, "Comparison of tumor volumes derived from glucose metabolic rate maps and SUV maps in dynamic ^{18}F -FDG PET," *J Nucl Med*, 49:892–8, 2008.
- [80] P. Cheebsumon, F. H. P. van Velden, D. de Ruyscher, W. van Elmpt, M. Yaqub, O. S. Hoekstra, A. A. Lammertsma, and R. Boellaard, "Assessment of tumour volume in lung cancer: PET versus CT based methods [abstract]," *Eur J Nucl Med Mol Imaging*, 37(suppl 2):257s, 2010.
- [81] C. S. Patlak and R. G. Blasberg, "Graphical evaluation of blood-to-brain transfer constants from multiple-time uptake data. Generalizations," *J Cereb Blood Flow Metab*, 5:584–90, 1985.
- [82] P. Cheebsumon, L. M. Velasquez, C. J. Hoekstra, W. Hayes, R. W. Kloet, N. J. Hoetjes, E. F. Smit, O. S. Hoekstra, A. A. Lammertsma, and R. Boellaard, "Measuring response to therapy using FDG PET: semi-quantitative and full kinetic analysis," *Eur J Nucl Med Mol Imaging*, 38:832–42, 2011.
- [83] K. R. Zasadny and R. L. Wahl, "Enhanced FDG-PET tumor imaging with correlation-coefficient filtered influx-constant images," *J Nucl Med*, 37:371–4, 1996.
- [84] M. Hatt, C. C. le Rest, A. Turzo, C. Roux, and D. Visvikis, "A fuzzy locally adaptive Bayesian segmentation approach for volume determination in PET," *IEEE Trans Med*

References

- Imaging*, 28:881–93, 2009.
- [85] M. Hatt, D. Visvikis, O. Pradier, and C. C. le Rest, “Baseline ^{18}F -FDG PET image-derived parameters for therapy response prediction in oesophageal cancer,” *Eur J Nucl Med Mol Imaging*, 38:1595–606, 2011.
- [86] M. Werner-Wasik, A. D. Nelson, W. Choi, Y. Arai, P. F. Faulhaber, P. Kang, F. D. Almeida, Y. Xiao, N. Ohri, K. D. Brockway, J. W. Piper, and A. S. Nelson, “What is the best way to contour lung tumors on PET scans? Multiobserver validation of a gradient-based method using a NSCLC digital PET phantom,” *Int J Radiat Oncol Biol Phys*, 2011.
- [87] H. J. Aerts, A. A. van Baardwijk, S. F. Petit, C. Offermann, J. Loon, R. Houben, A. M. Dingemans, R. Wanders, L. Boersma, J. Borger, G. Bootsma, W. Geraedts, C. Pitz, J. Simons, B. G. Wouters, M. Oellers, P. Lambin, G. Bosmans, A. L. Dekker, and D. de Ruyscher, “Identification of residual metabolic-active areas within individual NSCLC tumours using a pre-radiotherapy ^{18}F Fluorodeoxyglucose-PET-CT scan,” *Radiother Oncol*, 91:386–92, 2009.

