

Towards diagnostic and therapeutic integration of advanced MR imaging in thoracic and neuro-oncology

Citation for published version (APA):

Peerlings, J. (2019). *Towards diagnostic and therapeutic integration of advanced MR imaging in thoracic and neuro-oncology*. Ipskamp Printing BV. <https://doi.org/10.26481/dis.20190418jp>

Document status and date:

Published: 01/01/2019

DOI:

[10.26481/dis.20190418jp](https://doi.org/10.26481/dis.20190418jp)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Towards diagnostic and therapeutic integration of advanced MR imaging in thoracic and neuro-oncology

Jurgen Peerlings

1. Thoracic MR imaging has additional value over PET-CT imaging for the clinical diagnosis and selective radiation treatment of regional lymph node metastasis in patients with non-small cell lung cancer
– This thesis
2. The spatial integrity of clinically optimized high-resolution 7 Tesla MR imaging is adequate to be used for radiation treatment planning of central brain regions
– This thesis
3. Multiparametric ¹⁸F-HX4-PET/MR imaging can visualize oesophageal cancer with high soft-tissue contrast, quantify intra-tumoral hypoxia, and detect early radiation treatment response prior to the occurrence of anatomical changes
– This thesis
4. Stable radiomics features can be extracted from ADC maps within a multicentre, multi-vendor clinical trial and used to complement assessment of treatment-related changes in absolute ADC metrics
– This thesis
5. Beyond stand-alone MR imaging, the future of cancer imaging lies in smartly combining multimodality parametric imaging techniques to gain comprehensive insights in tumour biology
– Valorisation addendum
6. Hypoxia PET imaging can be used in window-of-opportunity trials to assess the efficacy of new hypoxia targeting drugs, speeding-up future drug development
7. Although hybrid MR-Linac systems demonstrate an outstanding level of dosimetric and geometric accuracy of the radiation beam, their value in terms of improved treatment outcome needs to be established by clinical trials
8. Body diffusion-weighted imaging should not be a *copy-paste* of methods used in brain imaging but need to be adapted for specific imaging of extracranial anatomies and pathologies
9. Life is not measured by the number of breaths we take, but by the moments that take our breath away
– George Carlin, Comedian
10. It is not the mountain we conquer but ourselves
– Sir Edmund Hillary, Explorer