

Defining the biological and clinical basis of radiomics

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Propositions accompanying the thesis

**Defining the Clinical and Biological Basis of Radiomics
Towards clinical imaging biomarkers**

Patrick B.H.J. Großmann

Maastricht, March 8th, 2018

1. 'Precision medicine' will only succeed to make an impact when we start realizing that we need to implement *integrative* data analytical strategies. (valorization)
2. The distinct advantages of radiomics over traditional approaches is that radiomics is non-invasive, captures the entire tumor volume, and leverages routinely acquired data. (related to topic of dissertation)
3. In order to achieve robust clinical biomarkers, we need to quantify both tumor phenotype and tumor genotype. (related to topic of dissertation)
4. We need to understand the biological correlates of radiomics to increase the likelihood of successful implementation into clinical settings. (related to topic of dissertation)
5. Combining radiological with genomic and clinical predictors leads to highest prognostic value. (related to topic of dissertation)
6. "We all get excited about the potential of -omics. There is genomics, transcriptomics, metabolomics, proteomics, radiomics, etc., etc. But at the point of application, we can't forget the most important -omic science of them all: econ-omics. Because that is what is going to determine what we can do." – John Quackenbush. (related to field of science)
7. "Everyone knows that debugging is twice as hard as writing a program in the first place. So if you're as clever as you can be when you write it, how will you ever debug it?" – Brian W. Kernighan. (related to field of science)
8. "The definition of insanity is doing the same thing over and over and expecting different results." – Albert Einstein. (related to field of science)
9. "It's better to waste time (in a meeting) when you have some cake." – Chintan Parmar.
10. "Pain is just weakness that leaves your body." – Matthew Leon.