

# Artificial intelligence applications in radiotherapy

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**Propositions accompanying the PhD thesis**  
**Artificial intelligence applications in radiotherapy-The**  
**role of the FAIR data principles**

**Petros Kalendralis**

**Monday, October 10<sup>th</sup> 2022, 10:00 hours**

1. Medical imaging data contains valuable information about survival, disease progression and radiotherapy-derived toxicities (Chapter 2).
2. The clinical integration and implementation of radiomics-based decision-making systems require systematic effort to ensure robust and reproducible results.
3. We are in a reproducibility crisis. In order to solve this crisis, we need to invest in multidisciplinary radiotherapy groups that include technical and clinical professionals.
4. The most time-consuming part of clinical data science is data extraction.
5. The financial impact of not having a research “FAIRified” data infrastructure can reach the amount of 10.2 billion euros per year in Europe.

European Commission

6. The measure of intelligence is the ability to change.

Albert Einstein

7. The secret of change is to focus all of your energy, not on fighting the old, but on building the new.

Socrates

8. If you cannot explain it simply, you do not understand it well enough.

Albert Einstein

9. Everything is done according to numbers.

Pythagoras

10. The world is one big data problem.

Andrew McAfee

11. The world is the expanding Greece. Greece is the shrinking world.

Victor Hugo