High-dimensional imaging of the HPV-induced tumor microenvironment to improve clinical outcomes

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Stellingen behorend bij het proefschrift

High-dimensional imaging of the HPV-induced tumor microenvironment to improve clinical outcomes

1. HPV-induced tumors provide a powerful human model for studying fundamental principles of antitumor immunity. (*this thesis*)
2. The tumor microenvironment is a complex, multidimensional ecosystem that must be recognized as a therapeutic target in its own right. (*this thesis*)
3. The success of immunotherapy in HPV-induced tumors depends on the presence of a pre-existing, coordinated inflammatory microenvironment, not mere cell quantities. (*this thesis*)
4. One image says more than a thousand words, yet uncovering the biological secrets of an high-dimensional image demands a multidisciplinary approach, where the fusion of clinical insight, wet lab discovery and computational expertise drives translational progress. (*this thesis*)
5. The future of cancer therapy, is personalized therapy. Predictive biomarkers are the most essential drivers of this. *(inspired by the National Research Council "Toward precision medicine" 2011*)
6. Artificial intelligence will reshape biomedical research, enabling experiments and perturbations beyond human cognition, unlocking discoveries once thought impossible. (*inspired by Matheny et al. National Academies of Sciences 2022*)
7. High-dimensional spatial transcriptomics transforms our understanding of tumor ecosystems from static snapshots to dynamic functional landscapes. (*inspired by Ståhl et al. Science 2016*)
8. From molecules seen under a microscope to galaxies observed through telescopes, the smallest and the largest share a profound similarity. (*inspired by Ibn Sina "Kitab al shifa – The book of healing" 11th century*)
9. The next big revolution in healthcare, is making it accessible to all. (*inspired by the World Health Organization "The world health report: health systems financing: the path to universal coverage" 2010*).
10. Success in research relies on the perseverance and creativity to move forward when experiments fail. (*inspired by Thomas Kuhn "The structure of scientific revolutions" 1962*)
11. Science communication is vital for scientists to maintain public trust, sustain funding and inspire the next generation. (*inspired by Walter Bodmer "Public understanding of science" The Royal Society 2010*)
12. Education is the most sustainable form of scientific legacy. (*inspired by Aristotle "Politika - Politics" 4th century BCE*)