

STELLINGEN/STATEMENTS

Behorende bij het proefschrift/Belonging to the PhD dissertation

The molecular imaging suite: applications in nanotechnology, targeted imaging and cell tracking

1. Multimodal imaging studies show that chemically functionalized Single Walled Carbon Nanotubes (SWCNT) injected intravenously in mice undergo fast renal clearance ($t_{1/2} \sim 6$ min.) by alignment with the flowing blood and translocation through the glomerular filter. (*This thesis*)
2. The use of SWCNT-scaffold into an antibody targeted compound permits the amplification of the specific activity improving the signal-to-noise ratio without detrimentally impacting the immunoreactivity of the targeting antibody moiety. (*This thesis*)
3. ^{89}Zr -DFO-7E11 displays high tumor-to-background tissue contrast in immunoPET and can be used as a tool to monitor and quantify with high specificity tumor response in PSMA-positive prostate cancer. (*This thesis*)
4. There is no single 'best method' in cell tracking. Rather there is an array of high sensitivity, high spatial resolution and functional techniques that work best in combination. (*This thesis*)
5. Intestinal bacteria in germ-free mice do not contribute to the high intestinal levels of radioactivity following injection of radionucleoside analogs. (*This thesis*)
6. The quantitative MRI assessment of SPIO-labeled cells is very complex as the changes inherent to cell proliferation, cell migration, cell death and extracellular SPIO dispersion or aggregation exhibit different relaxivities. Unless, there is only one happening or a well defined process in a restricted volume of interest *in vivo* quantification is not possible. (*This thesis*)
7. Cerenkov radiation can be observed from a range of positron-, β -, and α -emitting radionuclides using standard optical imaging devices. The change in light emission intensity versus time is concordant with radionuclide decay and correlate linearly with both the activity concentration and the measured PET signal *in vivo* and *ex vivo* studies. (*This thesis*)
8. Scientific research consists in seeing what everyone else has seen, but thinking what no one else has thought. (Albert Szent-Gyorgyi)
9. Not everything that counts can be counted, and not everything that can be counted counts. (Sign hanging in Einstein's office at Princeton).
10. In science one tries to tell people, in such a way as to be understood by everyone, something that no one ever knew before. But in poetry, it's the exact opposite. (Paul Dirac)
11. You can't connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future. You have to trust in something – your gut, destiny, life, karma, whatever. Because believing that the dots will connect down the road will give you the confidence to follow your heart even when it leads you off the well worn path; and that will make all the difference. (Steve Jobs)
12. An opera begins long before the curtain goes up and ends long after it has come down. It starts in my imagination, it becomes my life, and it stays part of my life long after I've left the opera house. (Maria Callas)

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