

Propositions accompanying the thesis

New Hardware Avenues For Enabling Magnetic Resonance Thermometry Guided Radio Frequency Hyperthermia Treatment In Head & Neck

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1. There is an urgent need for standardized quantified performance metrics and reporting for magnetic resonance imaging guided radiofrequency hyperthermia devices (this thesis)
2. Advanced thermal modeling techniques including the effects of the discrete vasculature are necessary for accurate personalized hyperthermia treatment planning (this thesis)
3. In silico design and experimental validation of the MRcollar shows that virtual prototyping is a powerful tool in device development (this thesis)
4. Water bolus flow artefacts in magnetic resonance thermometry during radiofrequency hyperthermia can be overcome by doping the circulated water with iron oxide nanoparticles (this thesis)
5. Integrating a hyperthermia device with a magnetic resonance receiver system is a necessary and mandatory step to reach the full potential of the magnetic resonance guided hyperthermia treatments (this thesis)
6. Measure what is measurable, and make measurable what is not so (Galileo)
7. All that is gold does not glitter (Bilbo Baggins)
8. Success does not come from what you do occasionally, it comes from what you do consistently (Marie Forleo)
9. For a successful technology, reality must take precedence over public relations, for Nature cannot be fooled (Richard Feynman)
10. There is only one good, knowledge, and one evil, ignorance (Socrates)
11. To achieve great things, two things are needed: a plan, and not quite enough time (Leonard Bernstein)