# Stellingen

behorende bij het proefschrift

**GOLD NANOROD PHOTOLUMINESCENCE**
APPLICATIONS TO IMAGING AND TEMPERATURE SENSING

1. Heterogeneity between gold nanorods goes beyond what experimental accuracy can resolve. This is a major drawback that has to be addressed in the future.
   *Chapters 2-5 of this thesis*

2. It is not an *a priori* requirement to fully understand a phenomenon in order to successfully exploit it.
   *Chapter 3 of this thesis*

3. Gold nanospheres could be better suited for photothermal therapy than gold nanorods, but almost no information on the required properties has been reported in literature.
   *Chapter 4 of this thesis*

4. Proposition 4.

5. Surface enhanced Raman spectroscopy (SERS) can be employed, at best, to measure hot spot temperature.
   *Pozzi et al., J. Phys. Chem. C 119, 21116-21124 (2015).*

6. The future of fluorescence correlation spectroscopy (FCS) may lie in cleverly designed nanoparticles.
   *Langguth et al., Opt. Express 22, 15397 (2014).*

7. Thermometry in living cells needs a vary careful data analysis and interpretation, this may lead to artifacts and false conclusions.
   *Baffou et al., Nat. Methods 11, 899–901 (2014).*

8. Super localization is more than just fitting bright pixels by a Gaussian, specially when dealing with new sources of light.
   *Titus et al., ACS Nano 7, 6258–6267 (2013).*

9. Failed research is much riskier for a PhD and for a PI; risk management should always be a priority.

10. Across Europe more women than men attain tertiary education. However the earnings of women on average are 16.2% below those of men. Gender inequality has to be addressed in a definitive way.
    *Source: Gender Statistics by Eurostat*

11. The scientific *system* forgets that its employees are people.

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