

# Propositions

To the PhD thesis

## Quantification of Tissue Scattering Properties by Use of Fiber Optic Spectroscopy

- 1) For scattering properties in the biological relevant range, the single fiber reflectance signal is sensitive to the scattering phase function. (This thesis, chapter 2)
- 2) For dimensionless scattering, above a certain threshold, the single fiber reflectance signal becomes insensitive to the phase function. (This thesis, chapter 2)
- 3) The reduced scattering coefficient and the phase function dependent parameter  $\gamma$  can be quantified by taking multiple single fiber measurements with different fiber diameters. (This thesis, chapter 3)
- 4) The calibration of a single fiber measurement system using an Intralipid phantom has proven to be a reliable and robust method. (This thesis, chapter 5)
- 5) The use of only two different fiber diameters allows a reliable estimation of the tissue scattering properties. (This thesis, chapter 4 and 6)
- 6) Performing measurements by sequentially replacing probes with different fiber diameters has proven to be reliable in the lab; however, it is probably not feasible in a clinical setting. (This thesis, chapter 6)
- 7) The theory of considering tissue as a random continuous medium directly links tissue morphology to its optical properties. (This thesis, chapter 7)
- 8) The design of an optical phantom is a critical but complex step in the validation of an optical technique. (This thesis, chapter 5)
- 9) In order to study the light one has to spend countless hours in the dark. (Personal observation)
- 10) There are two ways of spreading light: to be the candle or the mirror that reflects it. (Edith Wharton)
- 11) Keep your eyes on the stars and your feet on the ground. (Theodore Roosevelt)

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