Propositions

1. There is always a trade-off between enhancing details and reducing noise in low contrast X-ray angiographic images for visualization purposes. The ultimate goal would be to enhance details to the desired quality, while keeping the noise at an acceptable level. [This Thesis]

2. Increasing the acquisition angle difference of the two angiographic views does not increase accuracy and precision of three-dimensional quantitative coronary angiography for circular lesions or bifurcation dimensions. [This Thesis]

3. Due to the variable anatomy of each individual patient combined with the variable orientation of the heart in the thorax, the operator-selected working view can be quite different from the true optimal view. [This Thesis]

4. The anatomy-defined bifurcation optimal viewing angle cannot be obtained in roughly half of the patient population due to the mechanical constraints of the current X-ray systems. [This Thesis]

5. The discrepancy in lumen size as assessed by three-dimensional quantitative coronary angiography and by intravascular ultrasound or optical coherence tomography is more pronounced in larger and tortuous vessels. [This Thesis]

6. Visual interpretation is extremely important in medical diagnosis; however, for evidence-based medicine, quantitative image analysis takes “variability” out of the interpretation.

7. Without contributing to improved patient care, a good medical image processing method is a goal half achieved.

8. A good workflow is as important as accuracy for quantitative analytical methods that aim to be used in daily clinical practice.

9. Passion is beneath beauty, the key to beauty.

10. Innovation through observation, plus an unbounded mind.

11. The only way to be truly satisfied is to do what you believe is great work. And the only way to do great work is to love what you do. [Steve Jobs]