

## **From the macro- to the microvasculature : temporal and spatial visualization using arterial spin labeling** Suzuki, Y.

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#### Stellingen

behorend bij het proefschrift getiteld

## From the Macro- to the Microvasculature: Temporal and Spatial Visualization using Arterial Spin Labeling

### <sup>by</sup> Yuriko Suzuki

- 1. Pulsed ASL is more preferable than pseudo-continuous ASL for non-selective 4D-MRA, unlike for perfusion imaging. *this thesis*
- 2. ASL-based 4D-MRA is ready to be used as an alternative method for contrastenhanced dynamic MRA in the brain. – *this thesis*
- Advanced information obtained by ASL-based 4D-MRA will contribute to a more rapid and smooth procedure of X-ray digital subtraction angiography (DSA) for endovascular treatments. – from N. Fujima et al. J Magn Reson Imaging 2016;44(4):834-845
- ASL-based 4D-MRA enables more natural (realistic? true?) observation of the cerebrovascular hemodynamics than that is achieved by X-ray DSA by use of power injection. – from D. G. Hughes et al. Br J Radiol 1994;67:786-789 and N. Fujima et al. J Magn Reson Imaging 2016;44(4):834-845
- 5. Motion correction should not be applied for background suppressed ASL acquired by simultaneous multi-slice technique when only standard motion correction software can be used. *this thesis*
- 6. Keeping the scan time short is of the utmost importance for a successful introduction of new MRI sequences.
- 7. A close collaboration with people working in the clinical environment is essential for successful clinical implementation of new MRI sequences.
- 8. ASL-based 4D-MRA gave new life to the dinosaur sequence "Turbo Field Echo Planar Imaging (TFEPI)". *this thesis*