

## Propositions accompanying the thesis

# **Glioma Oxygenation and Vasculature** In the Spotlight of MRI

1. Quantitative BOLD MRI is a valuable tool for measuring oxygenation in the brain tumor; however, it has not reached maturity for clinical application. (This thesis)
2. Clinicians must be aware that while implementing leakage correction algorithms is essential for accurate rCBV measurements in enhancing gliomas, it also impacts rCBV estimation in non-enhancing gliomas. (This thesis)
3. Dynamic susceptibility contrast (DSC) imaging in brain tumor protocols should be replaced with vessel size imaging (VSI), as it offers a more nuanced view of tumor microvasculature. (This thesis)
4. Histopathology is not always a reliable ground truth for evaluating physiological glioma markers. (This thesis)
5. The extent to which variations in spatial resolution between MRI and histology complicate the comparison between the two depends on the physiological feature under examination. (This thesis)
6. Aligning diverse MRI datasets in multi-parametric MRI is a complex task, requiring both the proper tools and a blend of skill and creativity in those undertaking this task.
7. Integration of advanced MRI techniques into clinical practice necessitates established image acquisition guidelines and open-access image analysis tools.
8. To implement advanced MRI imaging techniques in clinical settings, more funding and dedicated effort should be directed toward practical translation.
9. Every biopsy is a failed imaging experiment. – (Mark Griswold)
10. In multidisciplinary research, effective communication skills are as essential as core research skills.
11. Women symbolize the very essence of life and freedom. (Woman, Life, Freedom)  
(زن، زندگی، آزادی)