

Connectivity in the visual system; evidence from modeling, fMRI and DTI = Connectiviteit in het visuele systeem : bewijs op basis van modeleren, fMRI en DTI

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Stellingen behorende bij het proefschrift

Connectivity in the visual system

Evidence from modeling, fMRI and DTI

van

Michael Capalbo

1. Large-scale models of the visual system that include sub-cortical nuclei and direct connections from these nuclei to higher visual areas show better agreement with connectivity data and latency data than current models. (this thesis)
2. A map of the large-scale functional structure of the visual system obtained in a single fMRI session is an ideal starting point for studies into functional, effective, and structural connectivity. (this thesis)
3. The 'saccadic localizer' usually used for the functional localization of the FEF is also very effective for localizing the sub-cortical nuclei LGN, Pulvinar and Superior Colliculus. (this thesis)
4. Mapping the structural connectivity of the visual system with DTI reveals the possibility of direct connections from the sub-cortical nuclei to higher visual areas in the human brain. (this thesis)
5. Despite its obvious appeal, hierarchy is not an organizational principle of the entire visual system. (this thesis)
6. Essential facts about the function and structure of brain networks remain unknown: very little is known about the conduction velocity in the different neural pathways and there is very little *direct* data about the connectivity of the human brain.
7. Modern scientists strive to create research programs (in a Lakatosian sense) in which the main aim is to *prove* the theoretical core through auxiliary hypotheses. Instead, they should strive to *falsify* their theories in the Popperian sense.
8. De doelstelling van politiek Den Haag om eind 2010 tenminste 50% van de beroepsbevolking over de competenties te laten beschikken behorende bij een hbo- of wo-opleiding, staat haaks op de handhaving van de kwaliteit van het hoger onderwijs.
9. Een promotietraject dat begint zonder onderwerp en begeleiders schept ruimte voor eigen ideeën maar bevordert de uitwerking daarvan niet.