Multimodal modelling of the human brain

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Propositions

In complement of the Ph.D. thesis

Multimodal modelling of the human brain

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Maastricht, Thursday the 20th of November, 2014

1. Genetic bases shape the human connectome.

2. Most polymorphisms are subtle and may be undetectable by neuroimaging.

3. Polymorphisms in genes affecting ubiquitous neurotrophic agents can produce macroscale structural changes in the brain.

4. Axonal damage from Lewy neurites may be the earliest sign of Parkinson's disease, preceding somatic atrophy in the substantia nigra.

5. *In vivo* identification of Parkinsonian neurodegeneration with advanced diffusion imaging is possible and may be a viable alternative to presynaptic dopaminergic radiotracers.

6. Neural source localization methods should not overlook the conductivity profile of the white matter.

7. Accurate finite element head modeling can improve both passive and active neuroscience methods.

8. Your project is not unique: release your methods early and let everyone know what you are working on.

9. Open and distributed software development should be embraced.

10. Cloud and GPU computing tools should be taught to neuroscientists.

11. Peer review is the worst system, except for all the others.