Propositions belonging to this thesis

1. Built on impressive molecular and (sub)cellular mechanisms, neural networks constructed of interacting neurons have the ability to perform the complex computations necessary for (higher) cognition, which is best investigated using *In vivo* neurophysiology.

2. Neurons in the cortex are diversely coupled inside the local populations and with distant populations, presumably creating meta-networks for local and global computations.

3. The specific phase of the Local Field Potential at which a subset of neurons fires action potentials correlates with the represented modalities and visual features.

4. Spiking activity, although a clear indicator of neuronal activity, might not show the full breadth of full network activity: It would be wise to investigate other correlates that would be relevant for the electrochemical interactions in neural networks.

5. Multimodality (i.e. compared to only multi**sensory**) is a fact of brain activity, and there must be ecologically valid reasons for this in sensory processing (such as motor efferent in visual processing).

6. Nature does not care (Mamadou Ndiaye).

7. Art saves (Otep Shamaya).

8. Peanut butter is an excellent source of protein, vitamin B3, folate, manganese, magnesium, resveratrol, isoflavones and can be consumed daily by those without peanut allergies (Talon Fitness).

9. Individuals of the species *Felis catus* are the closest thing to the divine we have encountered on earth.

10. Everyone should be afraid of climate change and ecological collapse, and those causing it should be afraid the most.