## Propositions

1. High-dimensional neuroimaging phenotypes, such as voxels in template space or shape features, provide the opportunity to explore the brain genetic architecture beyond just anatomically defined regions. **(this thesis)**
2. By combining different types of omics data it is possible to gain more insight into Alzheimer disease etiology. **(this thesis)**
3. Newly developed computational algorithms allow performing high-dimensional cross-domain association analyses which were not feasible before. **(this thesis)**
4. It is possible to detect pleiotropy of a single locus across multiple phenotypes, based on just GWAS summary statistics. **(this thesis)**
5. The human cortex has a complex genetic architecture which substantially varies by regions. **(this thesis)**
6. Deep learning will become as popular in epidemiology as in medical image analysis, when it will be combined with causal inference.
7. “It doesn't matter how beautiful your theory is, it doesn't matter how smart you are. If it doesn't agree with experiment, it's wrong. In that simple statement is the key to science. “ **Richard Feynman**
8. First you need to define a scientific problem and then think about the method how to solve it, not the other way around.
9. “When you feel the urge to design a complex binary file format, or a complex binary application protocol, it is generally wise to lie down until the feeling passes." **Eric S. Raymond**
10. The post GWAS-era will require more advanced analytical tools to solve scientific problems.
11. Human genetics is just at an early stage of its development, as physics in the beginning of 20$^{th}$ century. We all are waiting for its own “theory of relativity” and “quantum mechanics”.