

# Leveraging human induced pluripotent stem cells for modeling brain diseases

Bas Lendemeijer

Propositions:

1. Astrocyte complexity is one of the defining features of the hominid brain. (*This thesis*)
2. Uniquely human disorders require a human model system to study their etiology and develop potential treatment options. (*This thesis*)
3. Antisense oligonucleotides are a viable treatment option for rare genetic neurodevelopmental disorders. (*This thesis*)
4. CSPG4 gene variants and iPSC-disease modeling implicate oligodendrocyte lineage dysfunction in the pathophysiology of familial schizophrenia. (*This thesis*)
5. Neurological complications associated with COVID-19 likely result from local immune responses triggered by virus invasion, rather than abundant SARS-CoV-2 replication in the CNS. (*This thesis*)
6. iPSC-technology has revolutionized the field of neuroscience.
7. Human brain cells derived from iPSCs mimic *bona fide* brain cells, at both the molecular and physiological levels.
8. iPSCs are an excellent tool to study the molecular and cellular phenotypes associated with human brain disorders.
9. Psychiatric disorders are an unavoidable consequence of human brain evolution.
10. The scientific community would benefit from enhanced incentivization of collaboration and reduced interpersonal competition.
11. "Just put it!" (Nilhan Günhanlar)