

Targeting sleep oscillations to improve memory in neurodevelopmental disorders

Dara S. Manoach, Ph.D.

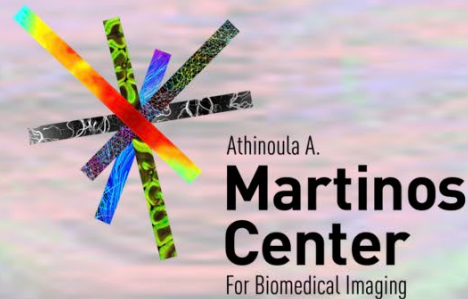
Professor of Psychology

Department of Psychiatry

Massachusetts General Hospital

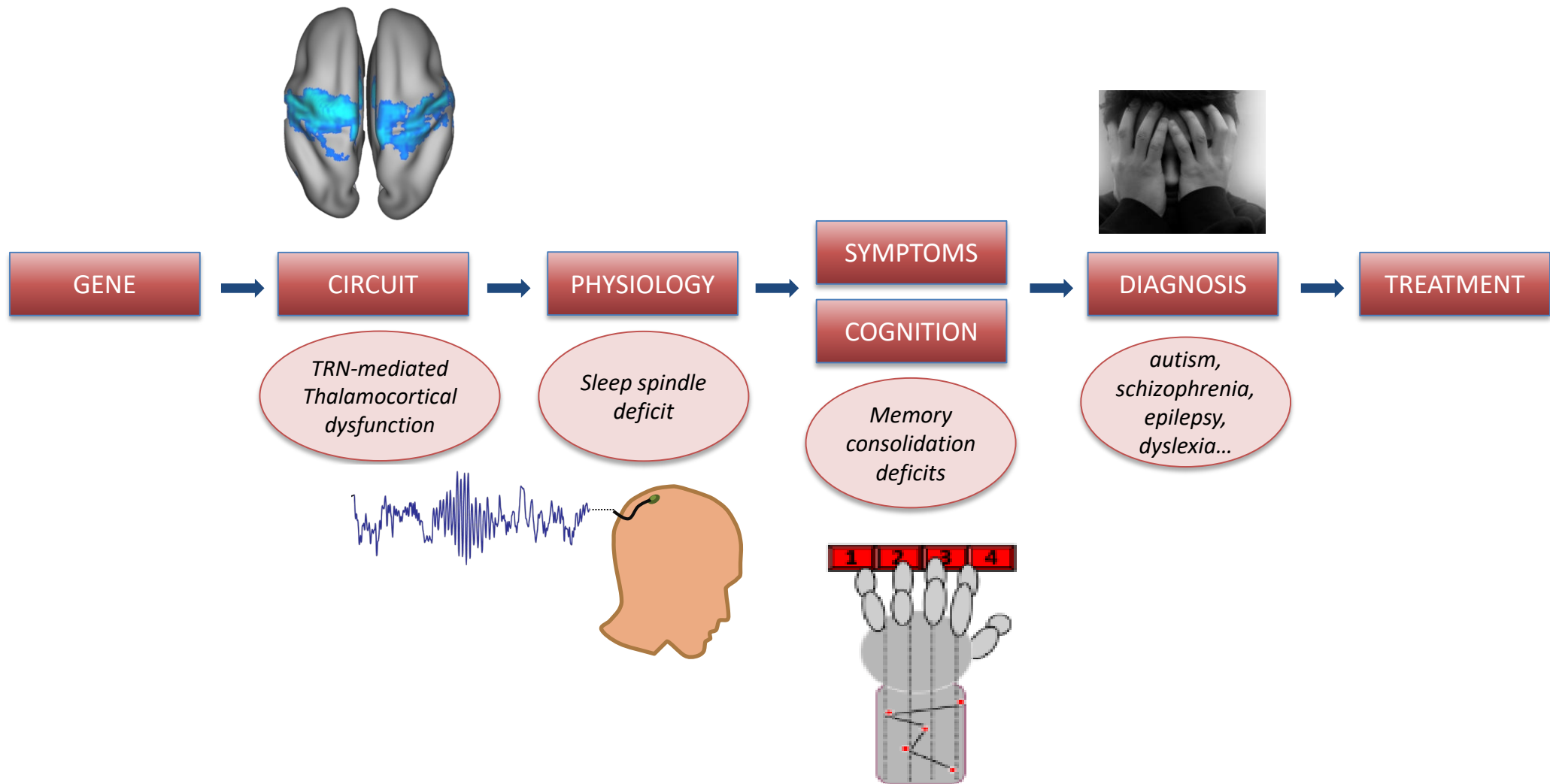
Athinoula A. Martinos Center

Harvard Medical School

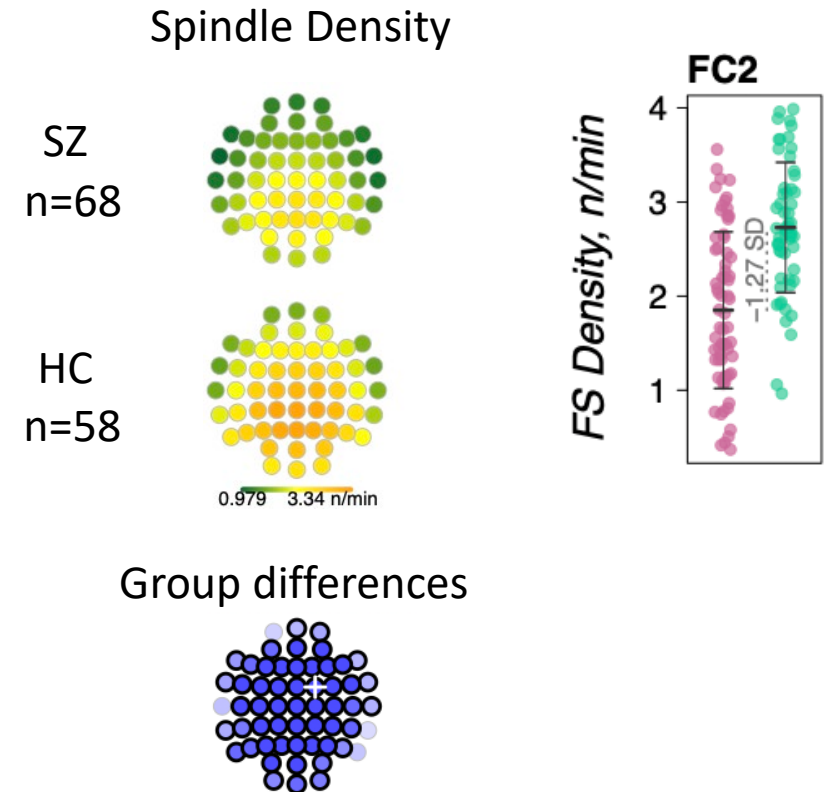
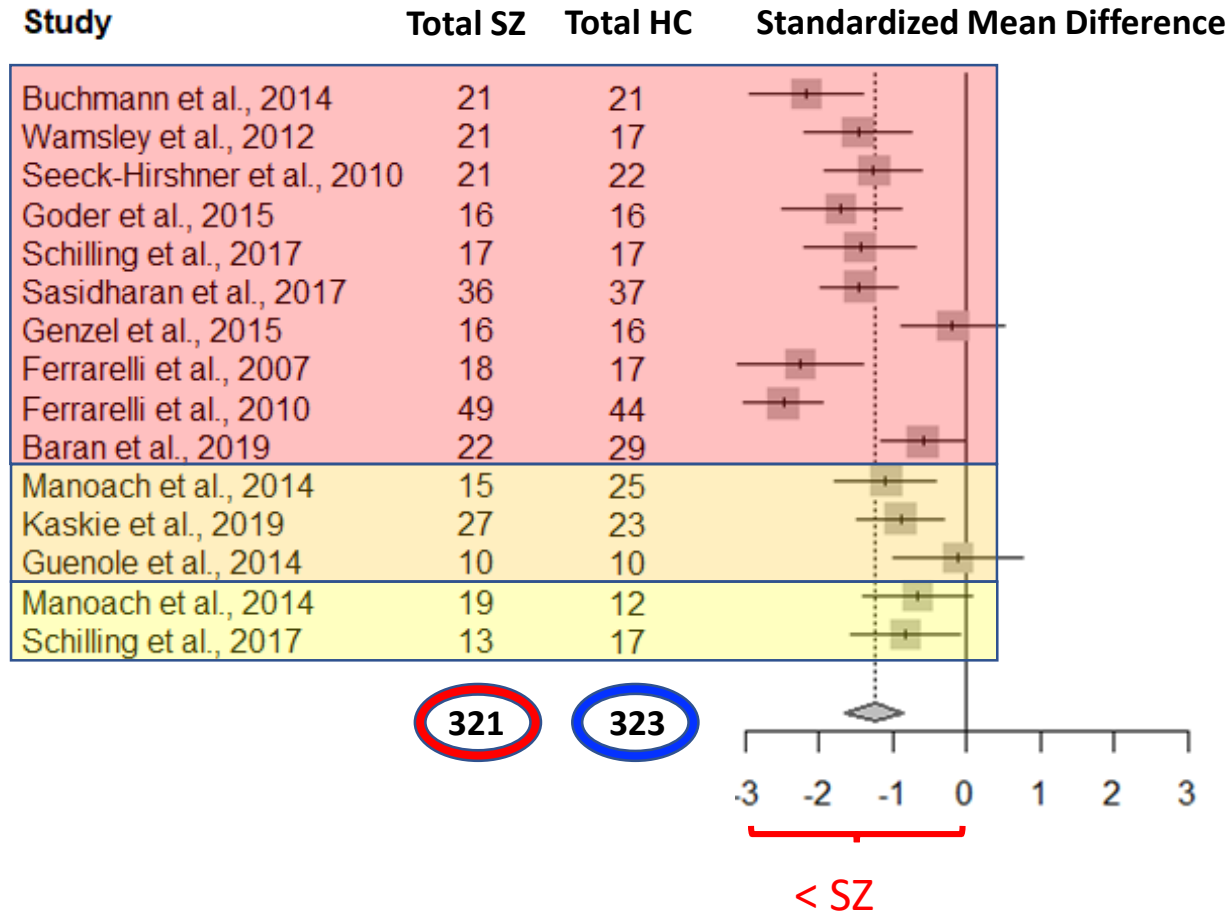


Disclosures: Consultant to Cycleron

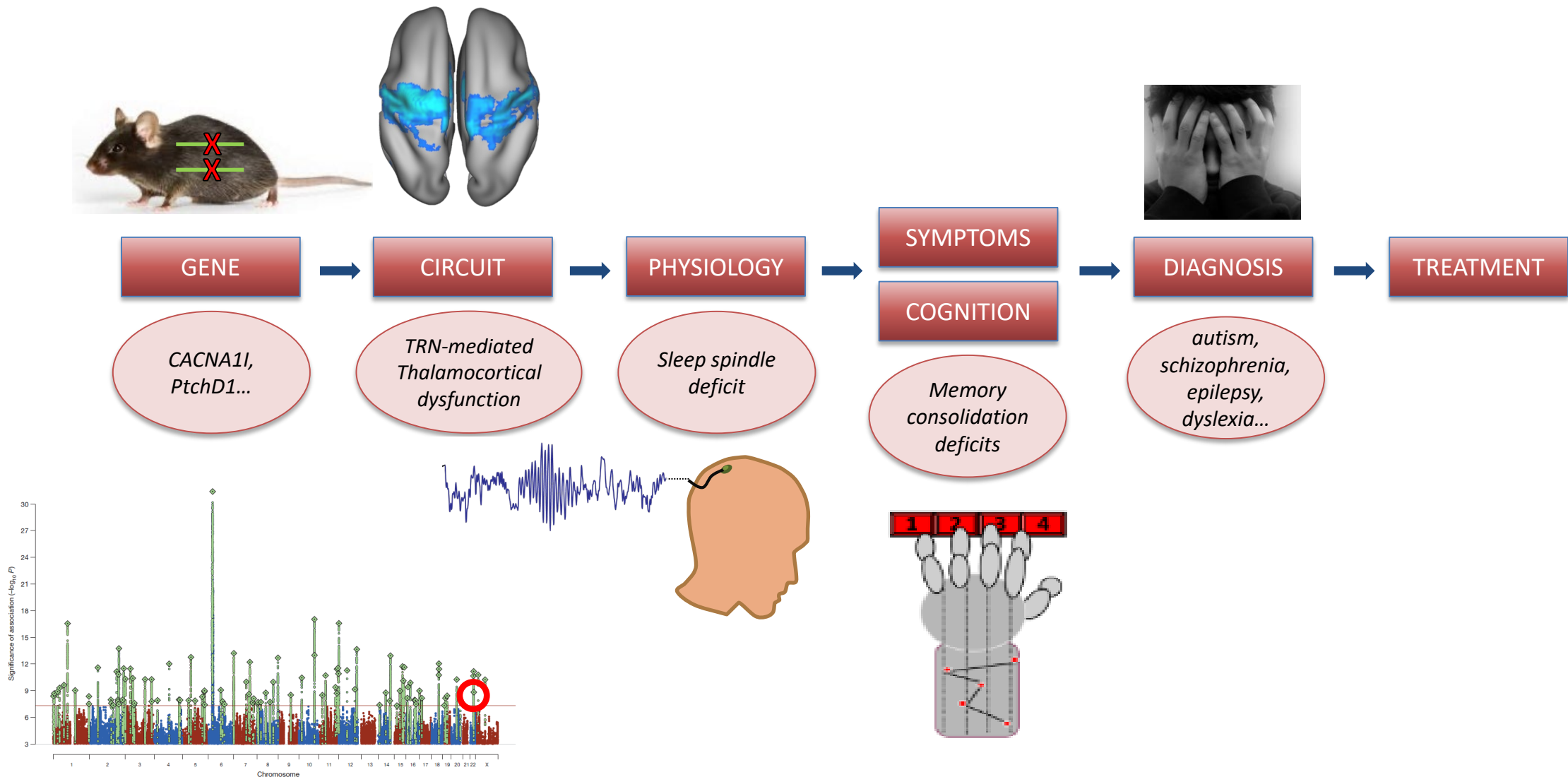
Forging links in Causal Chains: Genes → Diagnosis → Treatment



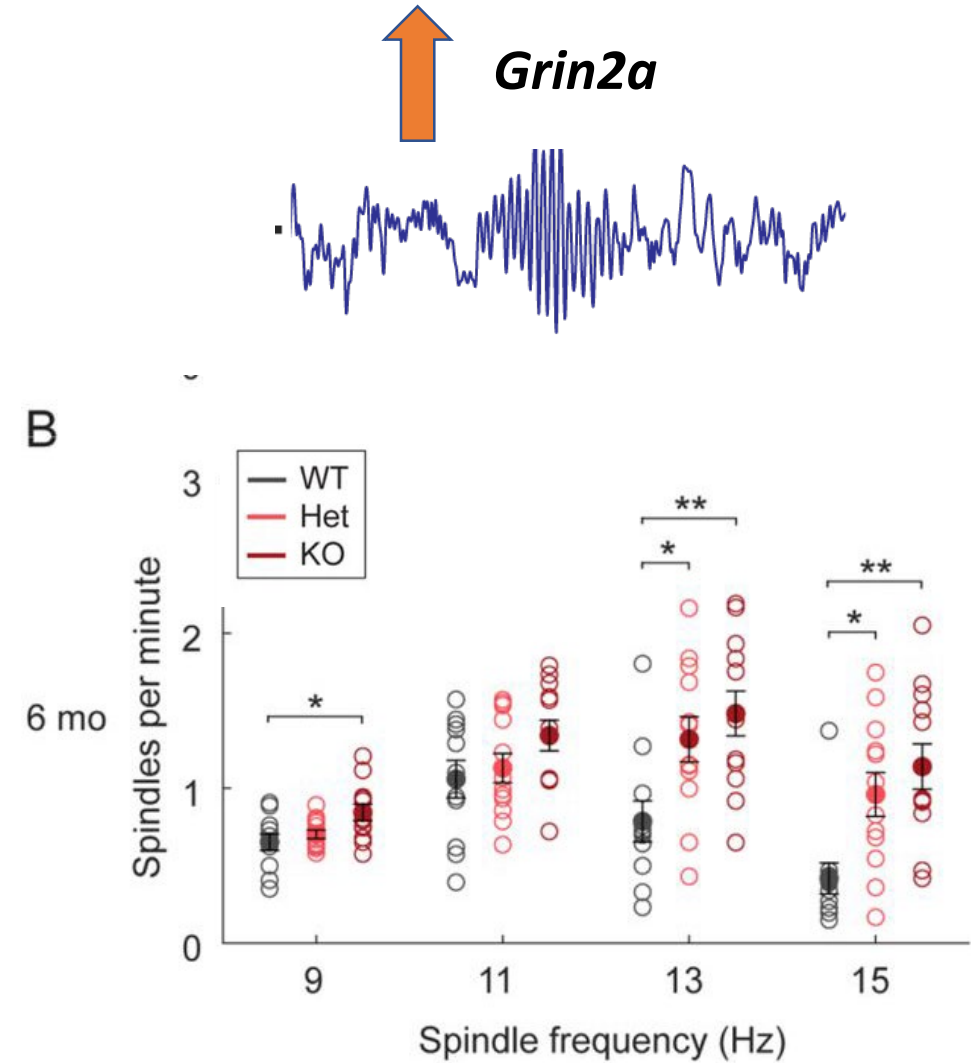
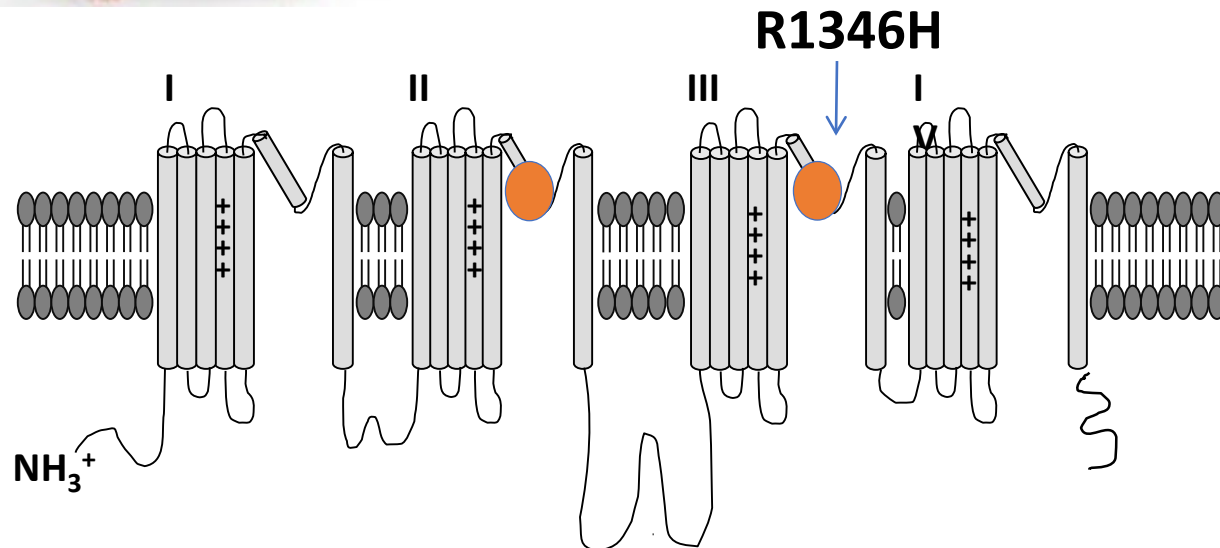
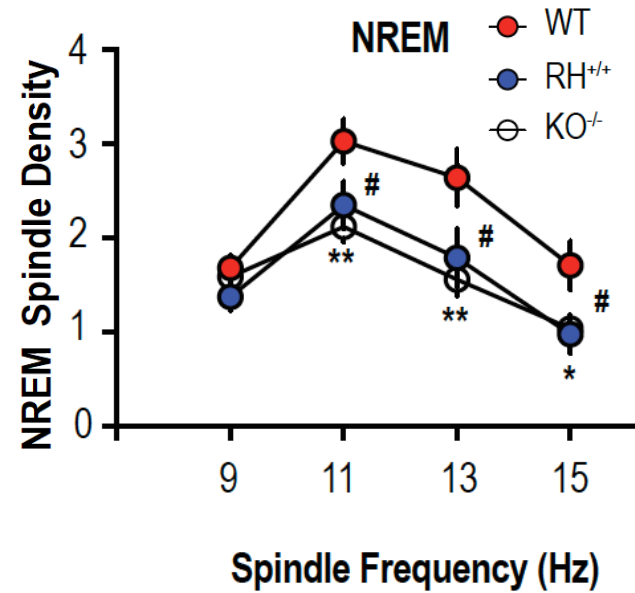
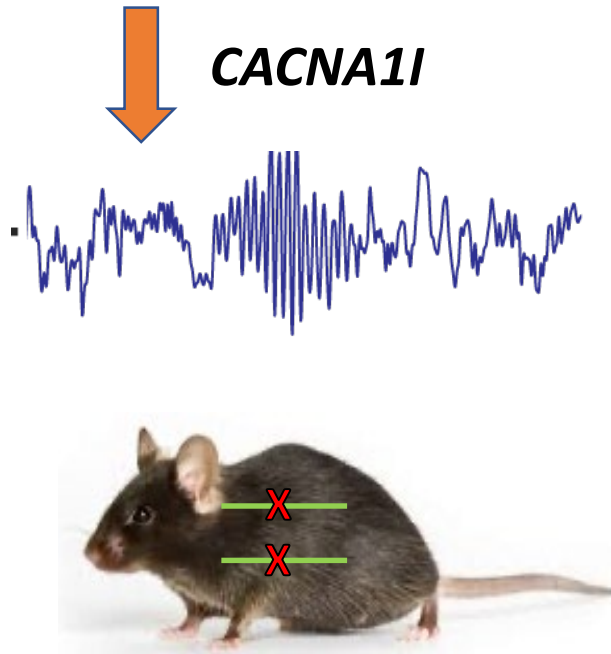
Reduced spindle density in schizophrenia is a reliable and generalizable finding



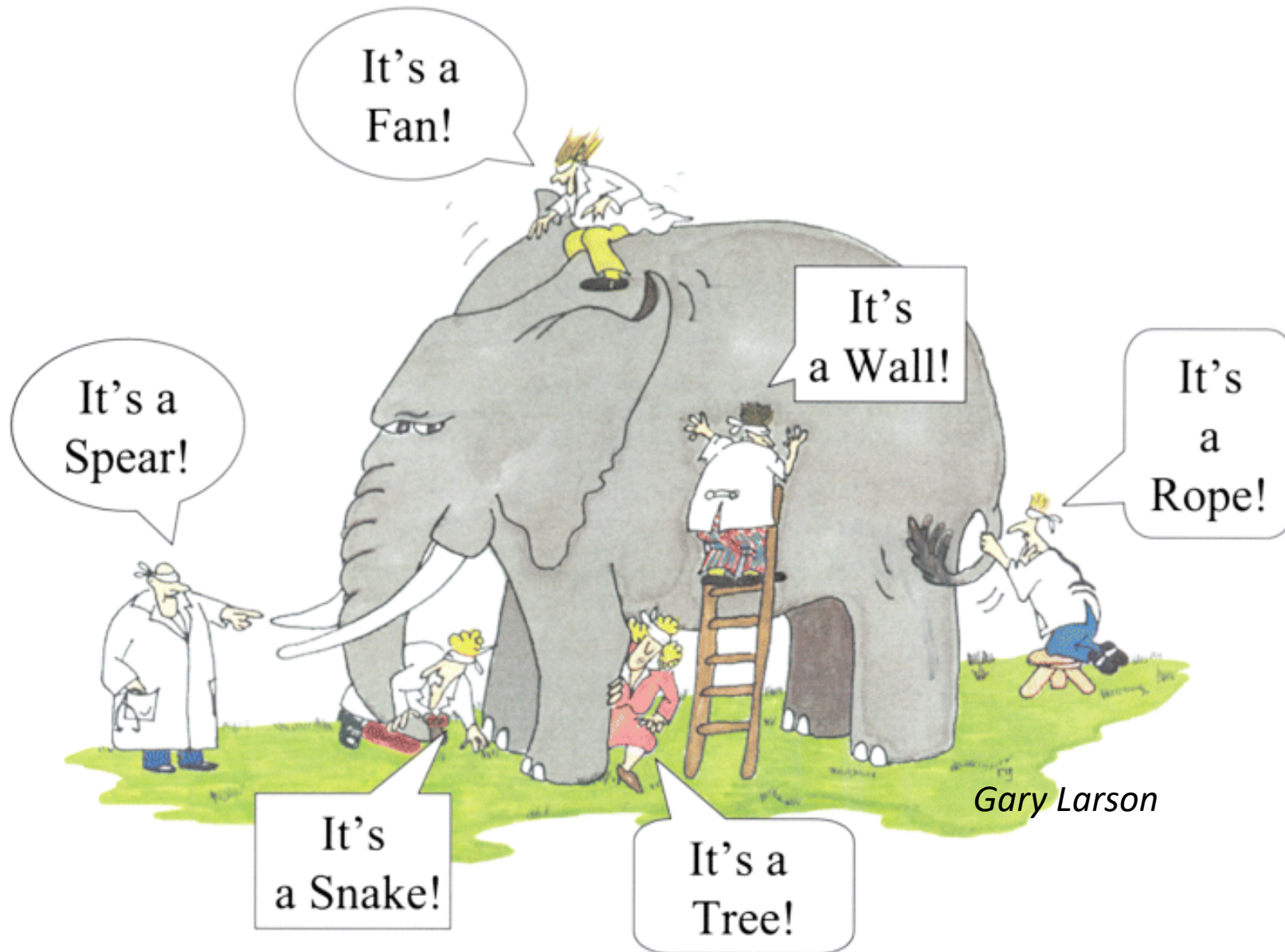
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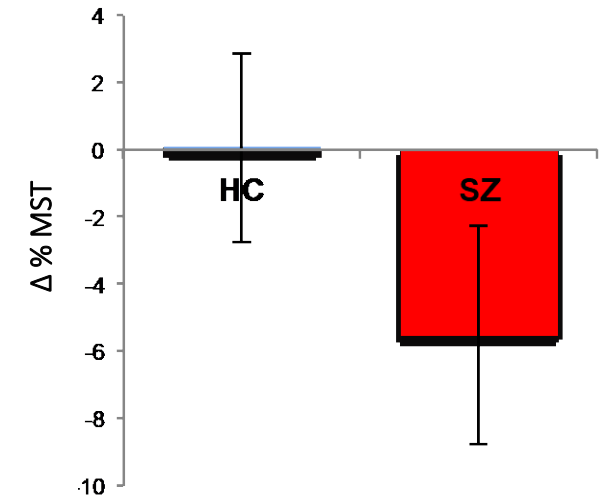
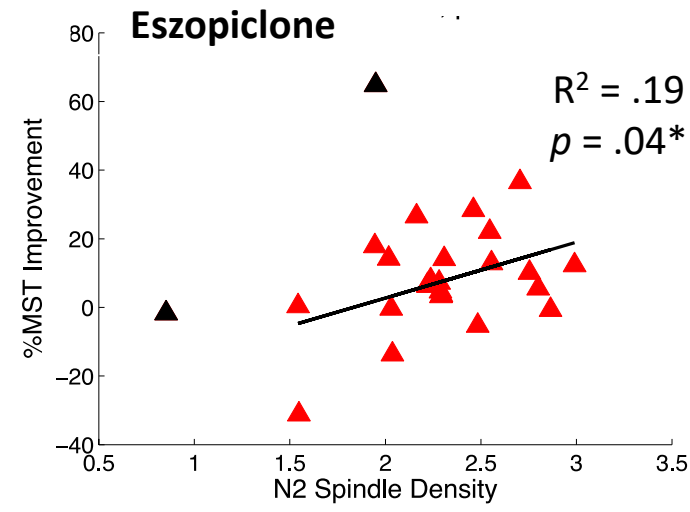
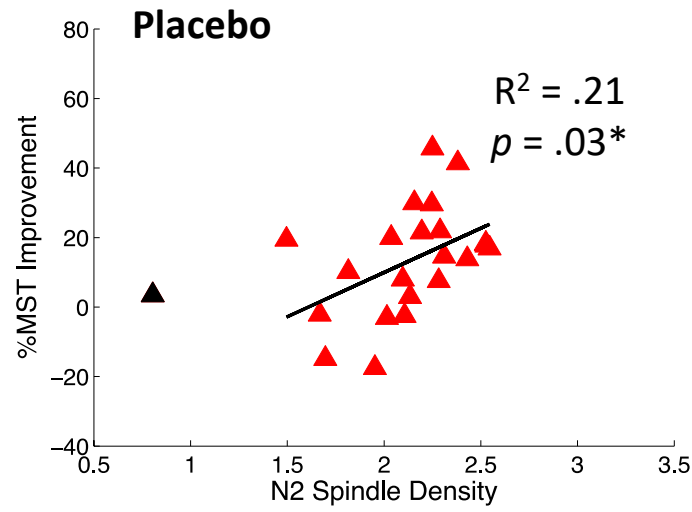
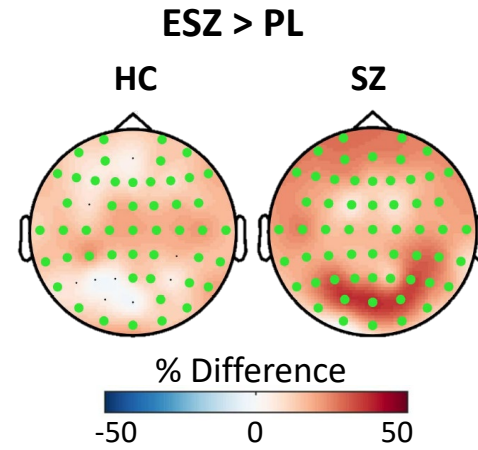
Challenge: Genetic Heterogeneity



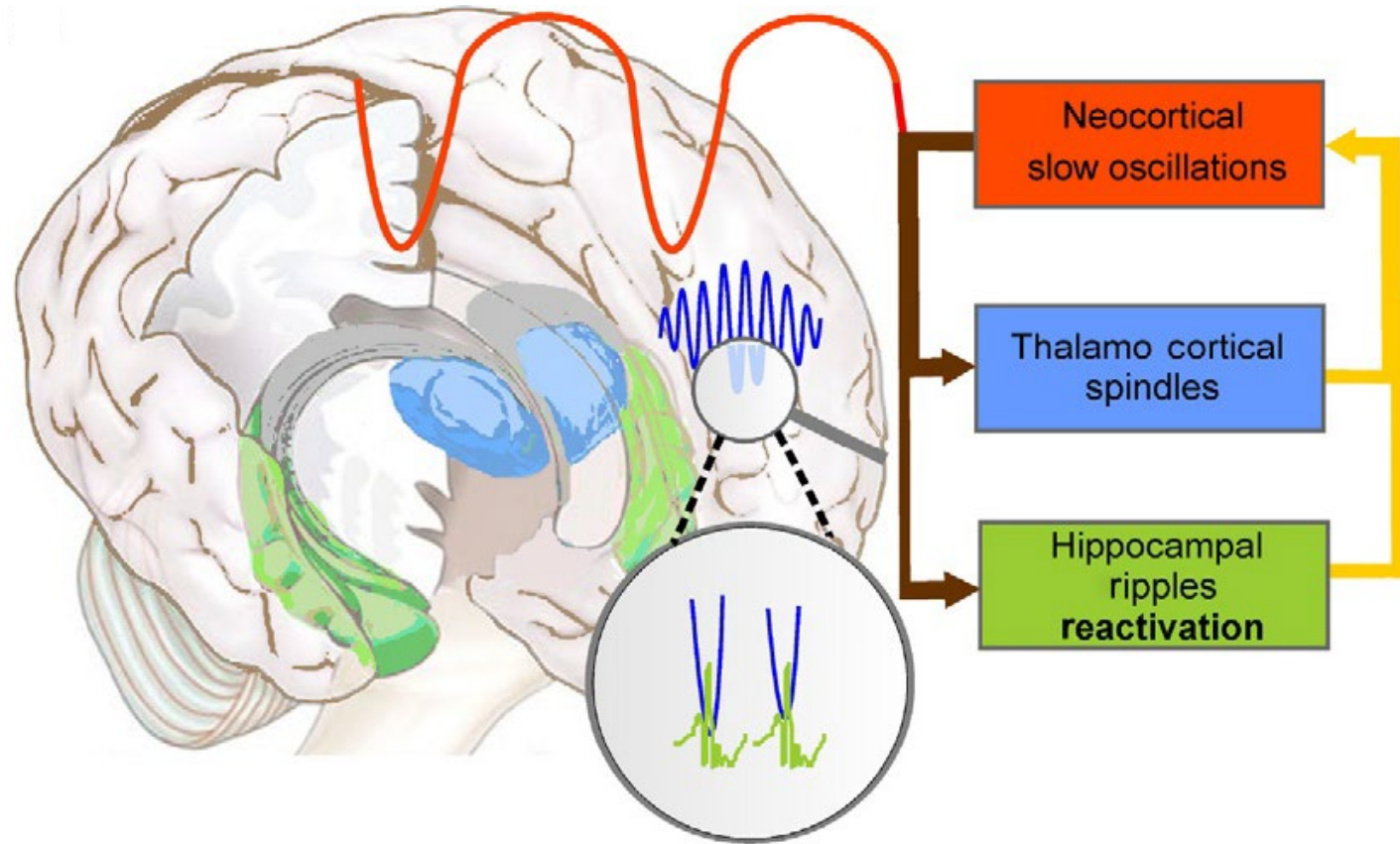
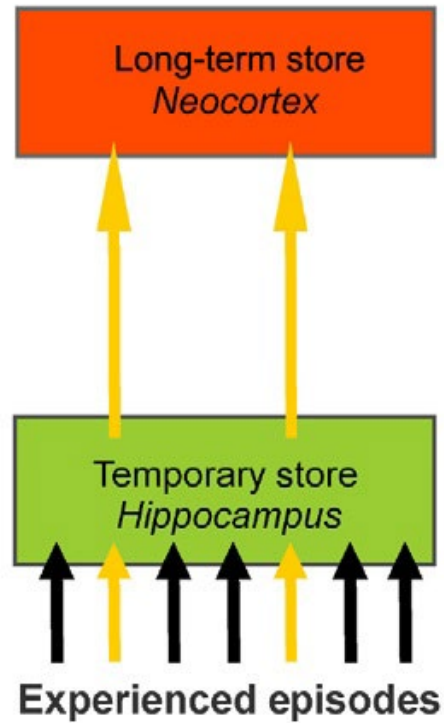
Challenge: Phenotypic Heterogeneity



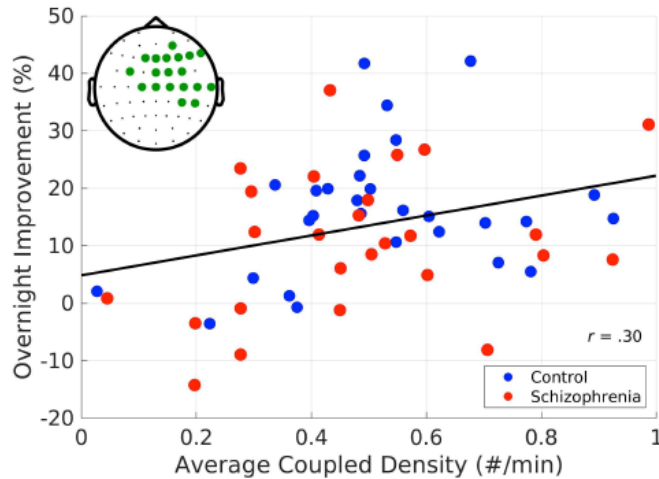
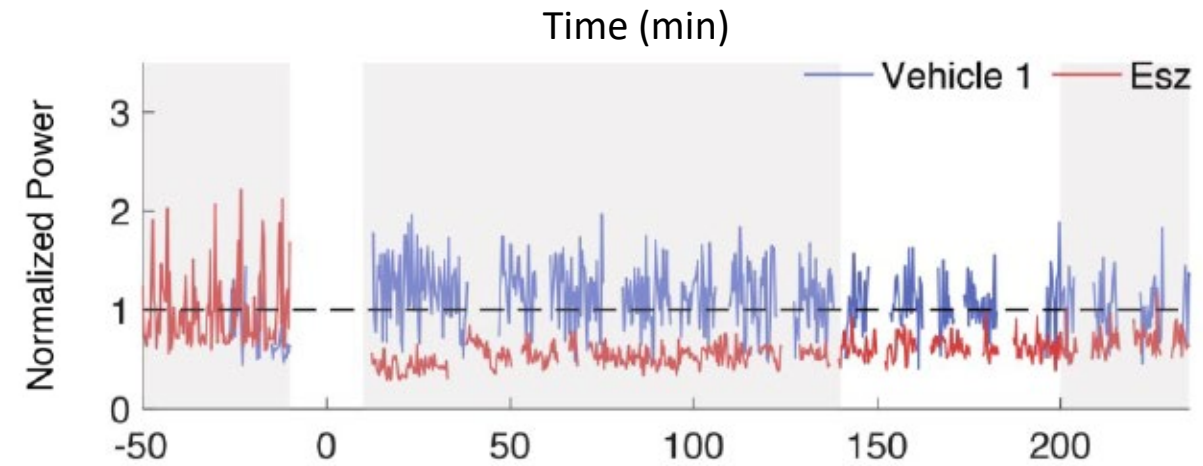
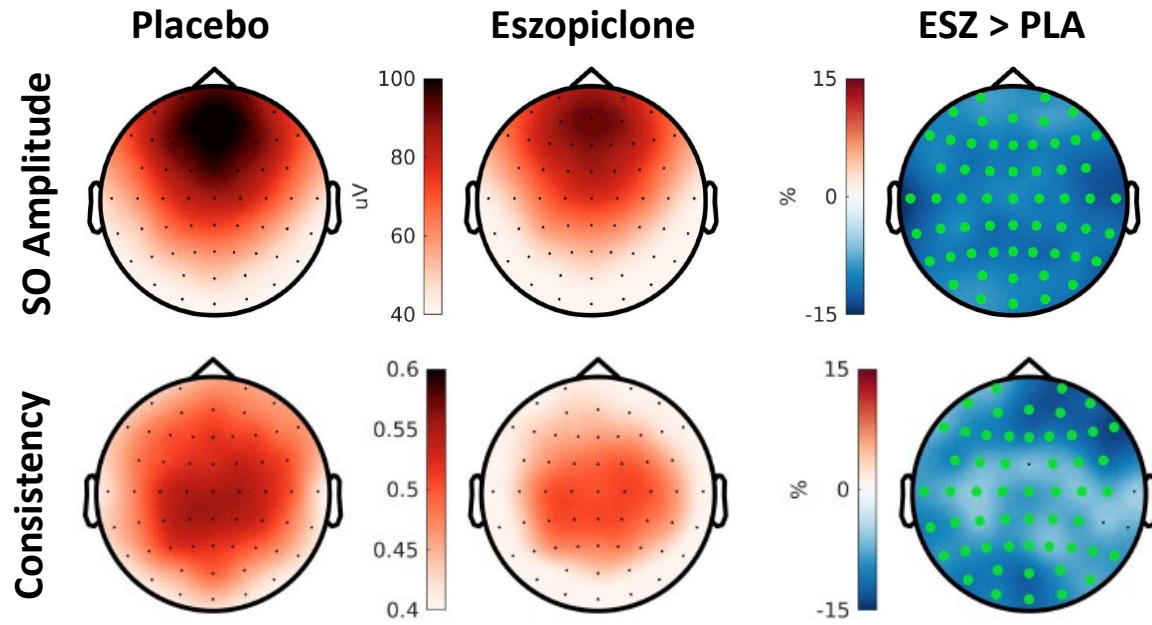
Challenge: Finding robust biomarkers for treatment studies



Challenge: Complexity of the circuitry

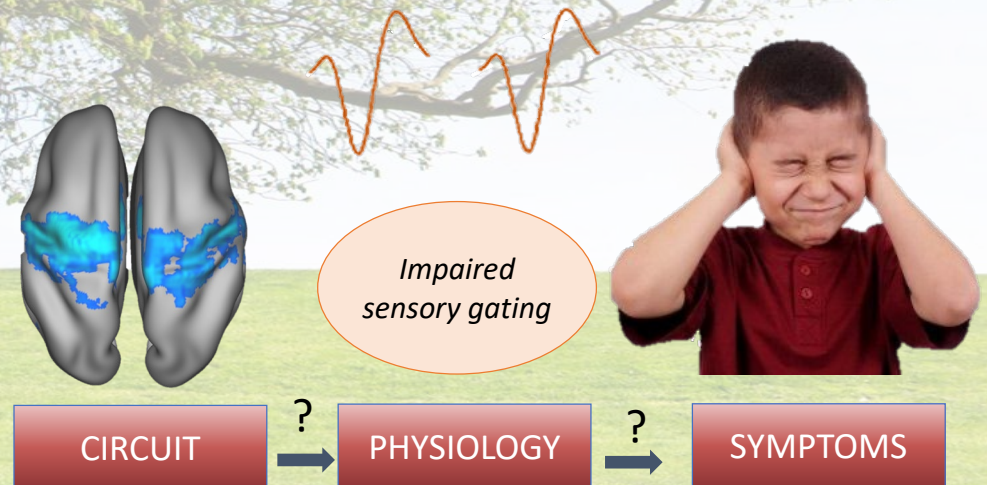
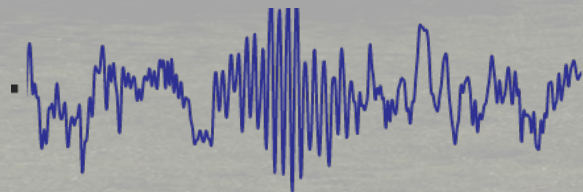
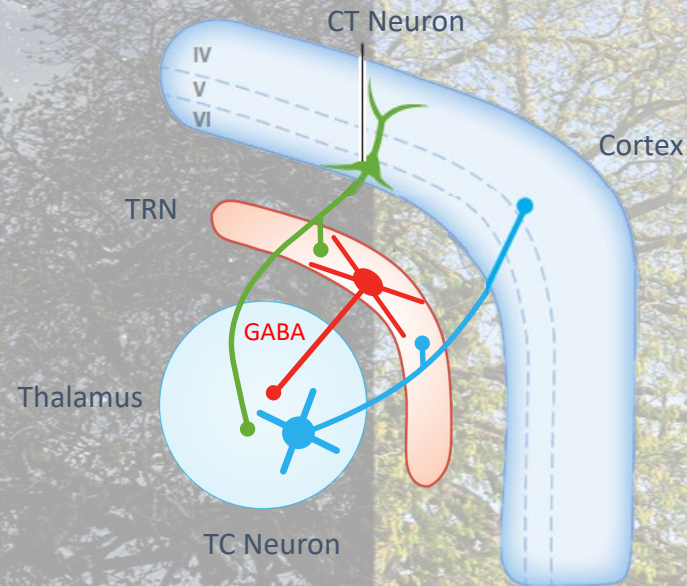


Challenge: Drugs effects are not specific

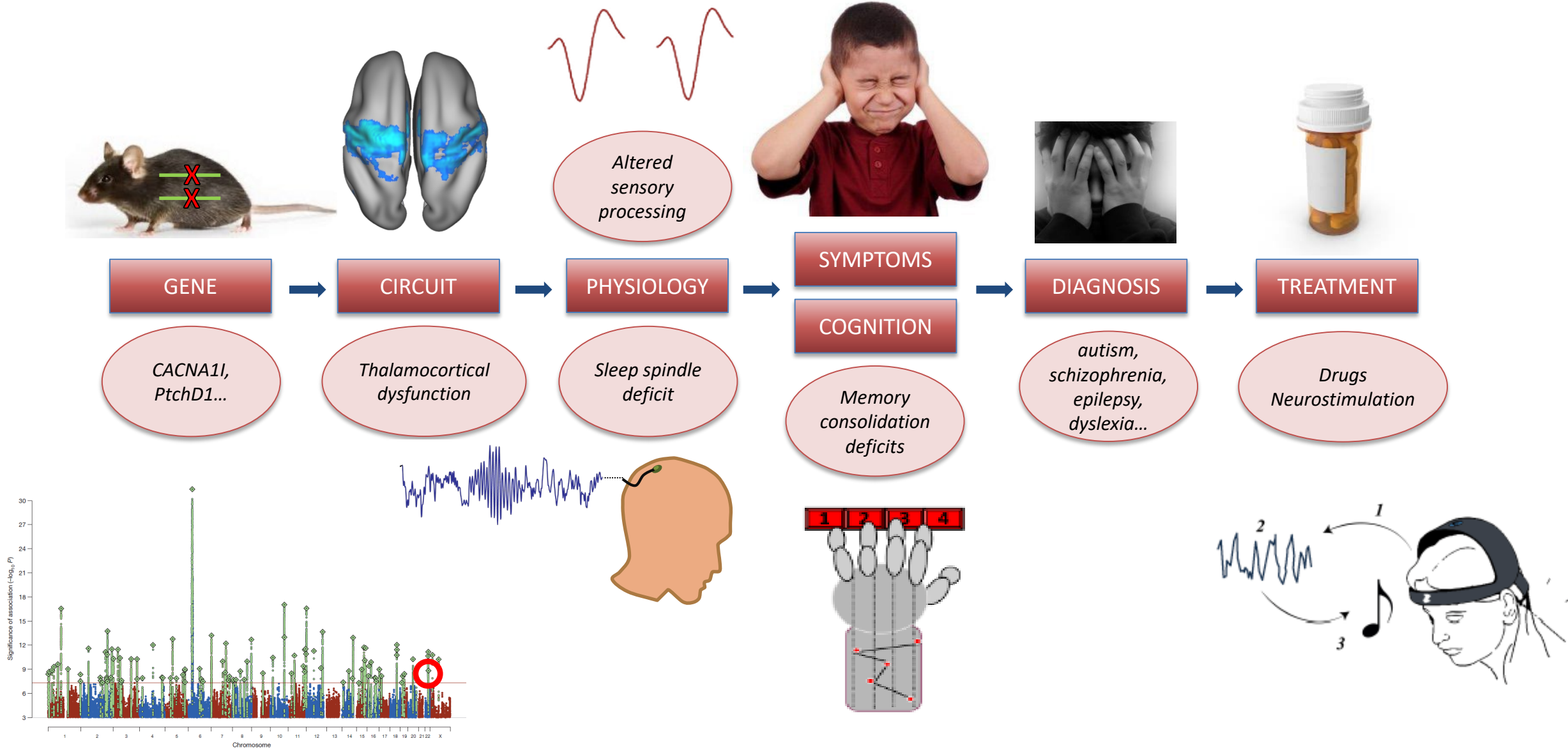


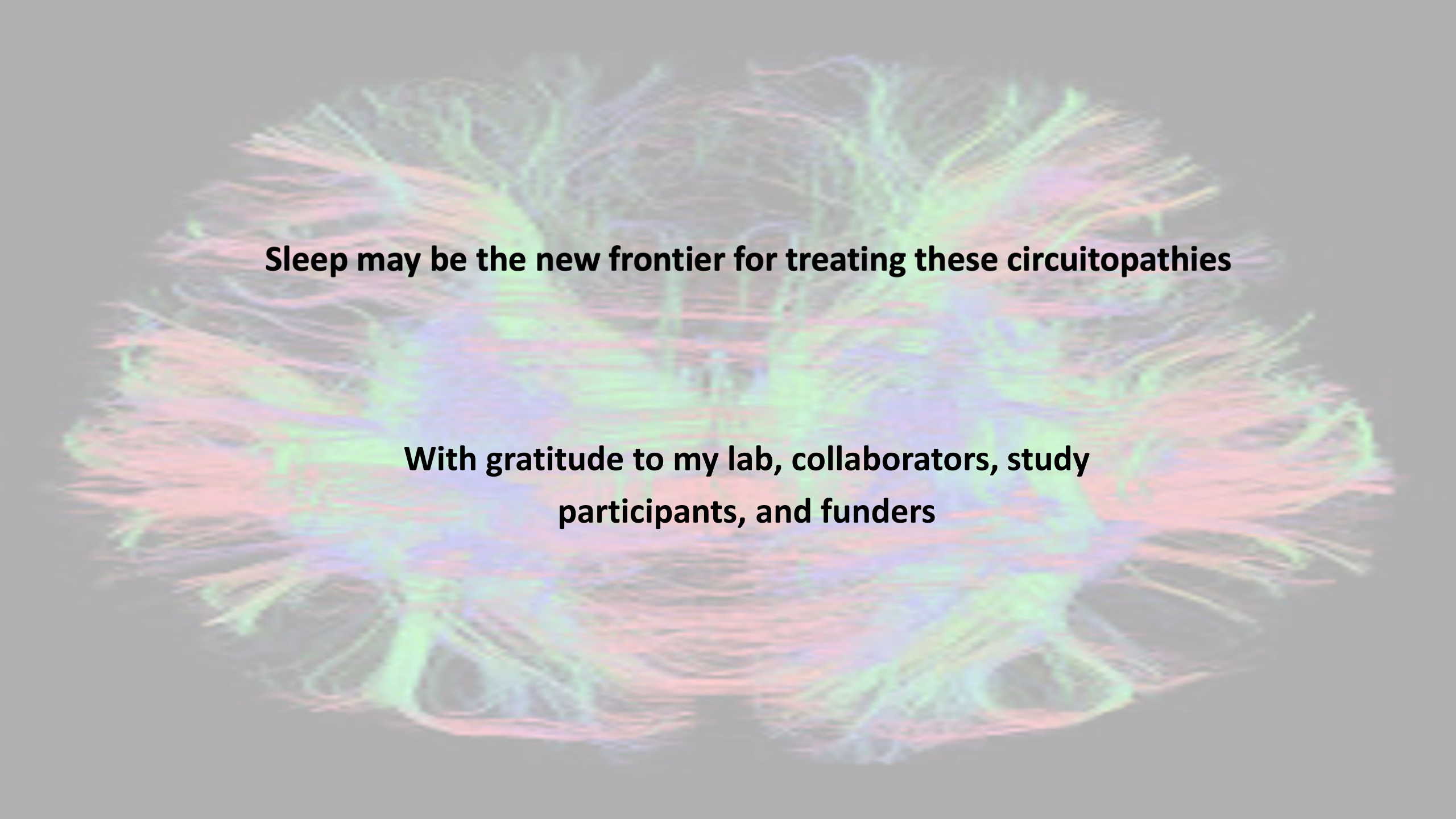
Biomarkers of TRN-mediated TC interactions

Sleep & Wake



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Sleep may be the new frontier for treating these circuitopathies

**With gratitude to my lab, collaborators, study
participants, and funders**