NC STATE UNIVERSITY

Comparative Medicine Institute

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Research emphasis:

Our research focuses on brain network activity patterns and psychiatric illness. We combine computer simulations, animal experiments, and human clinical trials to identify, engage, and validate brain rhythms as targets for therapeutic neurotechnology. We have a growing interest in understanding the role of the microbiome, infection, and inflammation in the etiology of psychiatric illnesses.

Application:

- Non-invasive brain stimulation
- Network neuroscience in the ferret and humans
- Clinical trials

Collaboration potential:

- Ferret (neuro-)biology
- Clinical trials / samples
- Brain stimulation
- Convergent neuroscience

Selected publications: (limit 4)

Li Y, Dugyala SR, Ptacek TS, Gilmore JH, Frohlich F. Maternal Immune Activation Alters Adult Behavior, Gut Microbiome and Juvenile Brain Oscillations in Ferrets. eNeuro. 2018 Oct 31;5(5).

Ahn S, Mellin JM, Alagapan S, Alexander ML, Gilmore JH, Jarskog LF, Fröhlich F. Targeting reduced neural oscillations in patients with schizophrenia by transcranial alternating current stimulation. Neuroimage. 2019 Feb 9; 186: 126-136.

Stitt I, Zhou ZC, Radtke-Schuller S, Fröhlich F. Arousal dependent modulation of thalamo-cortical functional interaction. Nat Commun. 2018 Jun 25;9(1):2455.

Sellers KK, Yu C, Zhou Z, Stitt I, Li Y, Radtke-Schuller S Alagapan S, Frohlich F. 2016. Oscillatory Dynamics in the Frontoparietal Attention Network during Sustained Attention in the Ferret. Cell Reports. 16 (11):2864–74.