

Stanford



Debra Karhson

Casual - Non-Exempt, Psychiatry and Behavioral Sciences - Child and Adolescent Psychiatry and Child Development

Bio

BIO

I am interested in understanding the neural mechanisms that underlie cognitive and social functioning heterogeneity in autism spectrum disorder (ASD). Impairments in social and cognitive functioning in children with ASD are intrinsically related to the changes in information processing. Moreover, social and cognitive functioning are emergent neural processes that can be manipulated by robust molecular neuromodulators. Social behaviors are specifically related to the neuropeptides, oxytocin (OT) and arginine vasopressin (AVP), while both social and cognitive functioning have been related to the endogenous cannabinoid (or endocannabinoid) system. Therefore, my postdoctoral research (funded by a T32 postdoctoral fellowship from the NIMH) investigates the role of neuromodulators (i.e., social neuropeptides and endocannabinoids) in social functioning in autistic children. My PI-lead efforts include mass spectrometry method development and treatment-related clinical neurophysiological assessment in autistic children. Individually, my research interests are centered on leveraging a translational neuroscience skill set to interrogate information processing in ASD pathophysiology and understand its relationship with (potential dysregulation of) endocannabinoid signaling.

Publications

PUBLICATIONS

- **Plasma anandamide concentrations are lower in children with autism spectrum disorder** *MOLECULAR AUTISM*
Karhson, D. S., Krasinska, K. M., Dallaire, J., Libove, R. A., Phillips, J. M., Chien, A. S., Garner, J. P., Hardan, A. Y., Parker, K. J.
2018; 9: 18
- **Intranasal oxytocin treatment for social deficits and biomarkers of response in children with autism.** *Proceedings of the National Academy of Sciences*
Parker, K. J., Oztan, O., Libove, R. A., Sumiyoshi, R. D., Jackson, L. P., Karhson, D. S., Summers, J. E., Hinman, K. E., Motonaga, K. S., Phillips, J. M., Carson, D. S., Garner, J. P., Hardan, et al
2017; 114 (30): 8119-8124
- **Atypical sensory reactivity influences auditory attentional control in adults with autism spectrum disorders.** *Autism research*
Karhson, D. S., Golob, E. J.
2016; 9 (10): 1079-1092
- **Endocannabinoid signaling in social functioning: an RDoC perspective.** *Translational psychiatry*
Karhson, D. S., Hardan, A. Y., Parker, K. J.
2016; 6 (9)
- **The Role of Right Inferior Parietal Cortex in Auditory Spatial Attention: A Repetitive Transcranial Magnetic Stimulation Study.** *The Role of Right Inferior Parietal Cortex in Auditory Spatial Attention: A Repetitive Transcranial Magnetic Stimulation Study*
Karhson, D. S., Mock, J. R., Golob, E. J.
2015; 10 (12): e0144221