



Application number/Title: 41018 - Interpreting Gene Expression in the Gut-Brain Axis Through the Lens of Human Genetics

Applicant PI: Dr Justin McManus

Application Institution: Kallyope, Inc., New York, New York, USA

Keywords provided by the Applicant PI to describe the research project:

bayesian, brain, disease, gastrointestinal, network, systems biology

Application Lay Summary:

A growing body of research suggests that the communication between the gut and the brain may play a role in several major human diseases, including Parkinson's Disease; obesity and diabetes; nonalcoholic steatohepatitis (NASH); Irritable Bowel Syndrome (IBS) and Inflammatory Bowel Disease (IBD); constipation; epilepsy; autism spectrum disorder; mood disorders; migraine; and chronic pain. Kallyope, Inc. was founded to harness the therapeutic potential of the gut-brain connection to improve human health, by developing drugs that regulate communication between the gut and the brain. Applying tools from modern neuroscience and the latest sequencing technologies, Kallyope is decoding the language in which the gut and brain communicate. By combining this understanding with the UK Biobank human genetics database, Kallyope aims to discover how gut-brain communication can affect human disease--and to develop drugs that alter this communication to improve human health.