Two Approaches to Non-standard Pathway Analysis

Abstract: We typically perform pathway analysis on a set of differentially expressed genes to understand which biological processes may be changing in our area of study. This presentation presents two applications of pathway analysis that are a little out of the ordinary. The first seeks to perform pathway analysis in a non-standard species. We convert gene names from one species to another by performing BLAST searches on similar species and link those new gene names to pathways in order to test for over-representation. In our second example, we seek to find an association between mutated pathways and survival to disease. After identifying pathways, we combine them into a bayesian network model with the intention of clinical use.

About the Speaker: Amy Webb is Research Scientist with the Biomedical Informatics Shared Resource group providing bioinformatics analysis to the Ohio State University. She started at OSU in 2011 as a post-doc as part of the Pharmacogenomics Research Network to research expression genomics in the brain. She received a PhD from University of North Carolina following work on the genetics of neurodegenerative diseases.