**Using Genome-Scale Metabolic Models of Foodborne Pathogens to address Food Safety**



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Systems biology is an approach to connect all of the information known about an organism together using computational approaches to guide experimental design and lead to new understandings about biological organisms such as humans, bacteria, and viruses. We have generated Genome-Scale metabolic models for numerous foodborne pathogens (*Listeria* spp., *Salmonella* spp., and *E. coli* O157:H7), and examined the strain-to-strain metabolic capabilities *in silico* and experimentally. These approaches lead to the development of new treatment methods for human disease and ways to make foods safer. Our research utilizes the abundance of microbial genomic data available and combines computational modeling with experimental approaches to study foodborne pathogens to address human disease and food safety.