University of Georgia.

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Development of Attenuated Vaccines against Johne’s Disease and related mycobacterial pathogens.

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Synopsis.

I will present studies to develop approaches to genetically manipulate MAP for the construction of mutant strains, with emphasis on the characterization of potential live-attenuated vaccine candidates that may be used as DIVA (differentiating infected from vaccinated animals) vaccines. I will also present genomics studies to analyze essential genes and virulence determinants on a wide genomic basis and our studies with the model system of \textit{Mycobacterium smegmatis} to analyze essential pathways in peptidoglycan biosynthesis and applications to the development of safe vaccines against mycobacterial diseases.