College of Science and Technology
TEMPLE UNIVERSITY®

Professional Science Masters (PSM) Program

-Spring '23 Bioinformatics Capstone-

Date: Thursday, 05/04/23

Time: 3:00pm -4:00pm EST

Location: BIOLIFE – Room #234

Meet our Presenter:

Erin M. Theiller
PSM, Bioinformatics – Degree-
Class of '23

Capstone Project Title: "*Understanding the Evolutionary Drivers of Leptospira Pathogenicity through Phylogenetic Analysis*"

Abstract: Leptospirosis is a zoonotic disease caused by pathogenic spirochetes of the genus *Leptospira*. It is an emerging infectious disease, with increasing frequency and severity of outbreaks. The genus is quite complex, with species that can cause lethal human disease. *Leptospira* species are divided into those that are infectious for mammals and those that are non-infectious, environmental saprophytes. Infectious *Leptospira* are further divided into pathogenic and intermediate pathogenic members. Despite significant progress in understanding the epidemiology and pathogenesis of leptospirosis, the genus as a whole is vastly understudied. This study aims to provide a framework for understanding the evolution and diversity of Leptospira through phylogenetic analysis. By identifying and curating gene families, this study provides insights into the general processes by which *Leptospira* bacteria evolve to become pathogenic to humans.