

Interactions between parasites co-occurring within a single host can have profound effects on the host response to infection. For instance, co-infection can affect the ability of a parasite to successfully establish within a host or influence the severity of infection experienced by the host. Although key immunological mechanisms underlying these within-host interactions between co-infecting parasites have been described, the ecological consequences of these interactions are poorly understood. In particular, it is unclear if and when interactions between co-infecting parasites can alter population level patterns of infectious disease. In this talk, I discuss how immunological processes underlying parasite interactions within individual hosts can scale up to affect the population level dynamics of disease. I describe the results of a long-term field experiment testing whether co-infection with gastrointestinal helminths can alter the dynamics of bovine tuberculosis (an invasive microparasite) in a wild reservoir host population. The study provides insight into the role that within-host processes can play in the distribution and spread of infectious diseases in the wild.