Course Title: Advanced Topics in Host-Pathogen Interactions  
Course Number: TRMD 7330  
Course Instructor: Juan Pizarro  
N. Credits: 2  
Semester Offered: Spring

Course Description: The course will provide both an overview and an update on the recent advances in the study of host-pathogen interaction at the cellular and molecular levels. The focus will be on pathogen molecules that mediate interactions with host (and vector, if applicable), and the role these interactions play in host recognition and modulation, pathogen survival, virulence, and disease progression. The course will cover topics such as host specificity, immune evasion, pathogenicity and host-pathogen coevolution. Examples from the current literature will illustrate the link between basic science research in infectious diseases and our understanding of broader biological phenomena, as well as mechanisms of pathogenesis.

Student Learning Objectives:  
1. Identify the evolutionary outcomes of host-pathogen interactions at the molecular level.  
2. Differentiate the multiple cellular and molecular mechanisms used by the pathogens to gain access into their host and vector.  
3. Classify the pathogen strategies to evade the host/vector defense mechanisms.  
4. Judge the merit and limitations of the experimental approaches used to address the host-pathogen interaction.  
5. Describe disease pathology as an outcome of host-pathogen interactions.  
6. Recognize the molecular similarities and differences of host subversion mechanisms displayed by pathogens.