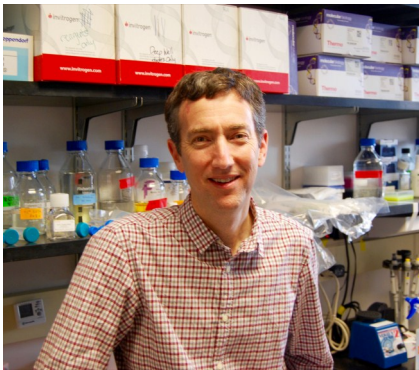

Seminar 2016

Fidelity and mutational load in RNA virus evolution



A fundamental problem in virology is to understand the evolutionary dynamics of virus populations and the forces that drive them within an individual host. These intrahost dynamics determine the rate at which a virus will adapt to new hosts, develop new routes of transmission, or generate novel antigenic variants. The current paradigm is that, for RNA viruses, high mutation rates lead to increased genetic diversity, which allows for more rapid adaptation and even enhanced virulence. However, most RNA viruses have small, tightly organized genomes and the vast majority of newly generated mutations are either lethal or detrimental to viral replication. These data suggest that mutational tolerance, or robustness, may have a greater impact on viral genetic diversity than mutation rate. We seek to understand the interplay between viral mutation rates and mutational tolerance in poliovirus and influenza virus, with the goal of elucidating how this relationship shapes the short-term dynamics of these medically important pathogens.

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Friday February 3, 2017

2:30 PM

Laufer Center Lecture Hall 101

Host: Tom MacCarthy

