



Vedhika Raghunathan

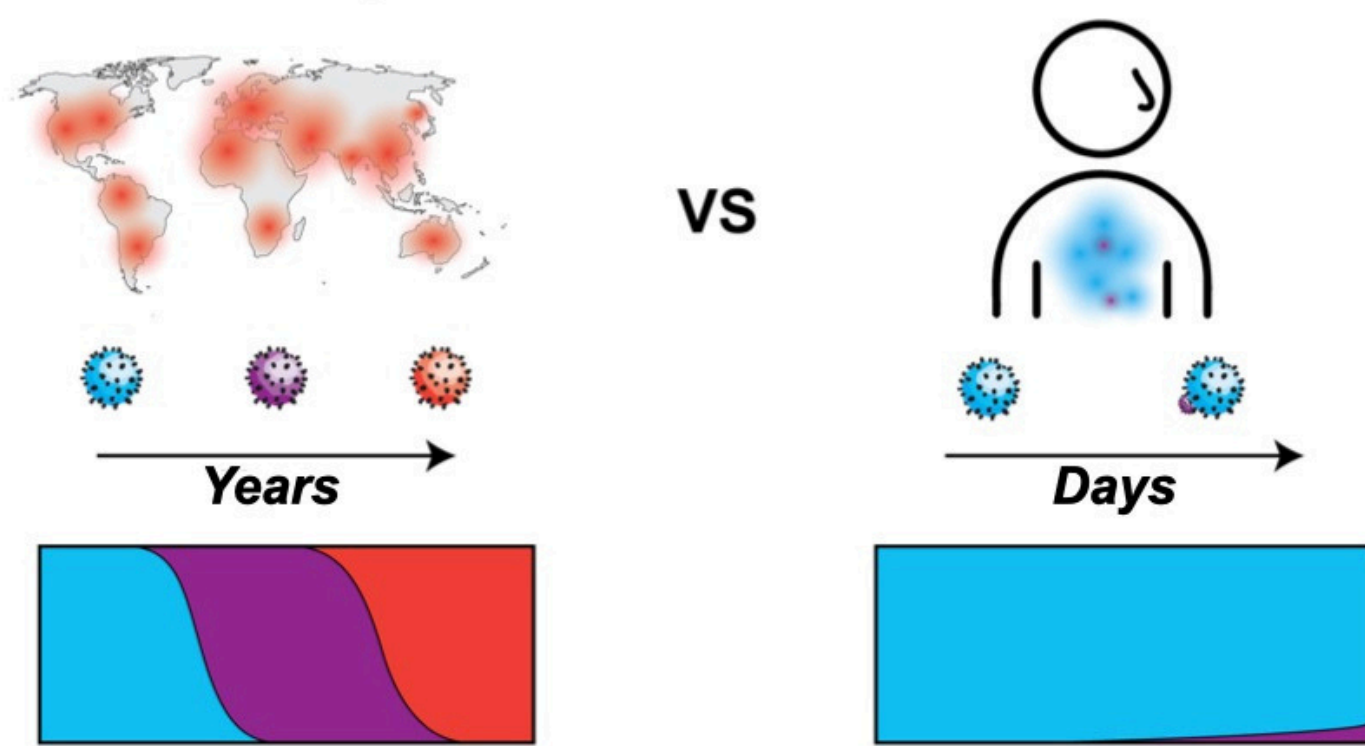
Ph.D. Student, Microbiology and Molecular Genetics
First Year ARCS Scholar Herz Global Impact Award



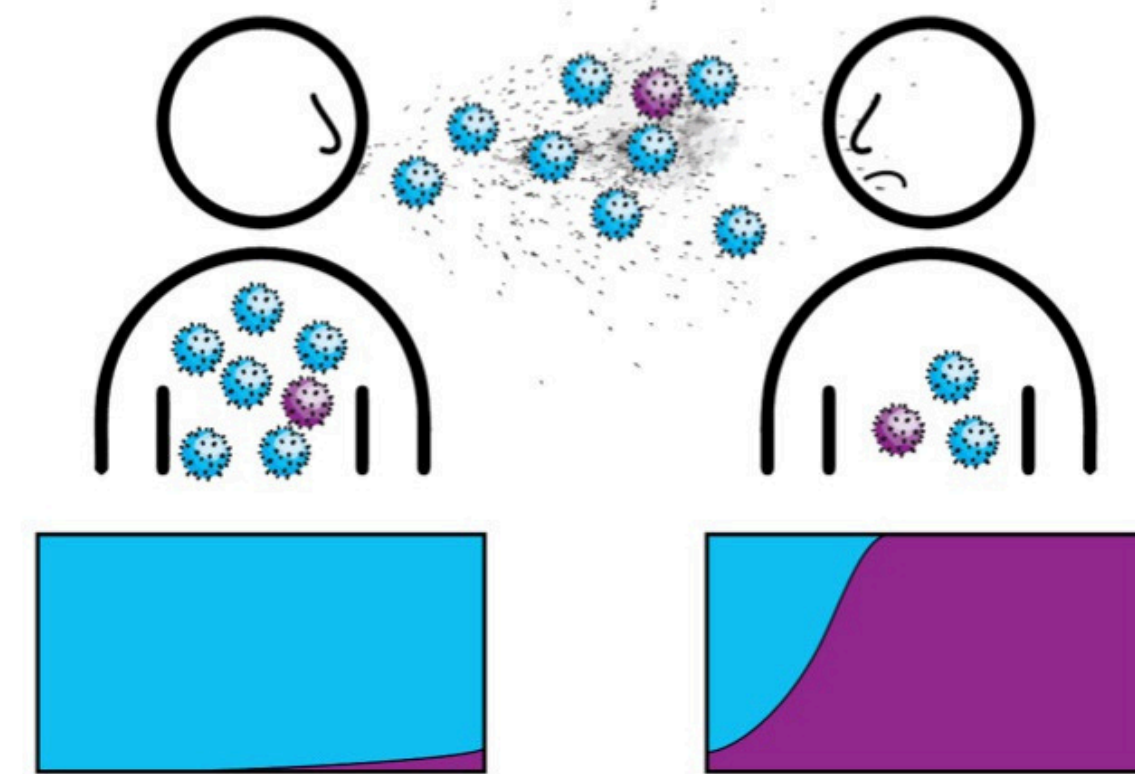
EMORY UNIVERSITY

How do Influenza A virus antigenic variants arise initially?

There is a disconnect in patterns of influenza A virus evolution at the global and individual scale



Transmission could link the population and individual scales



Experimental system



Pre-existing immunity to standard virus

Monitor selection



vs



Standard virus

Antigenically advanced virus

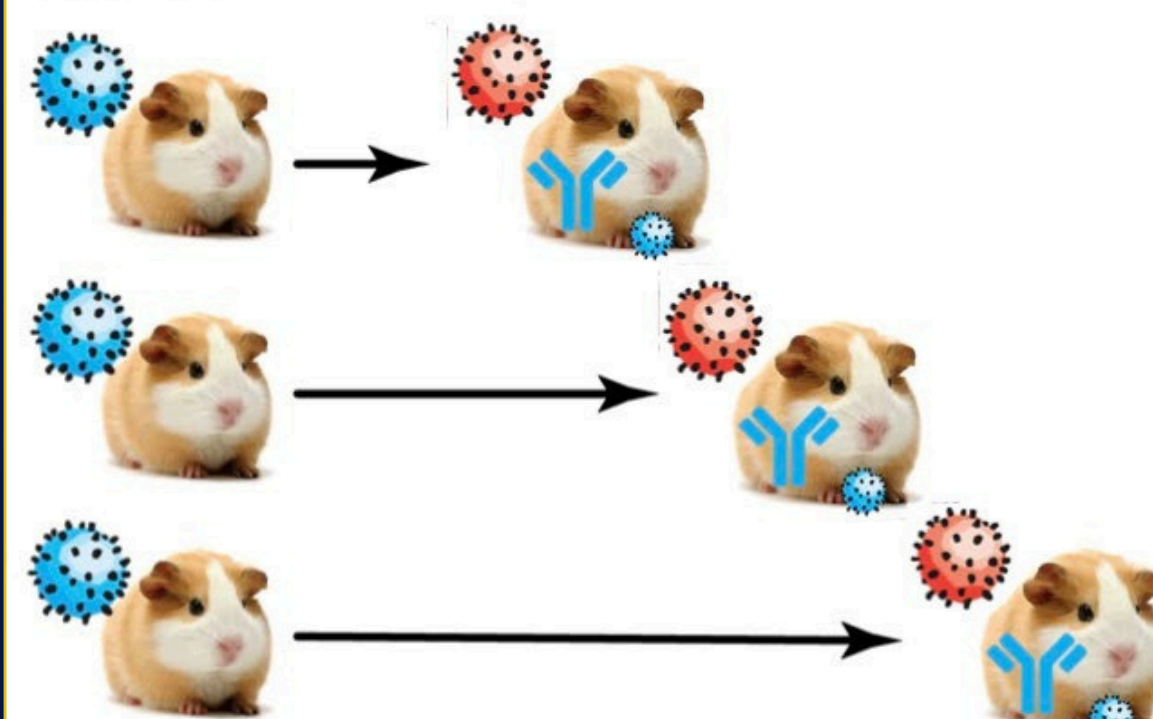
Monitor random effects

+ Barcode 1

+ Barcode 2

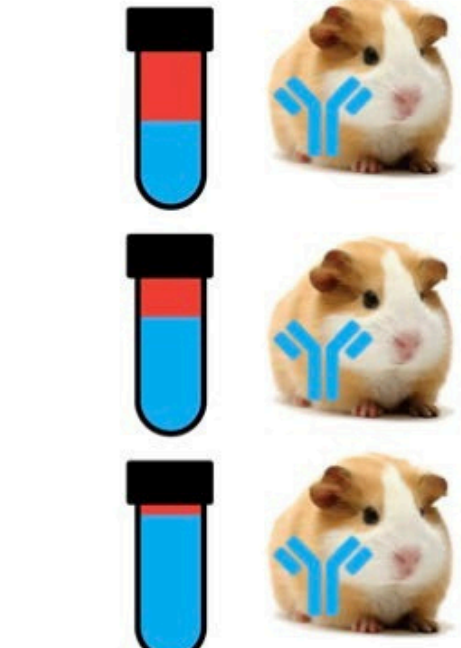
Aim 1: Examine the efficiency of selection within hosts

Aim 1.1



Vary timing of introduction of antigenic variant

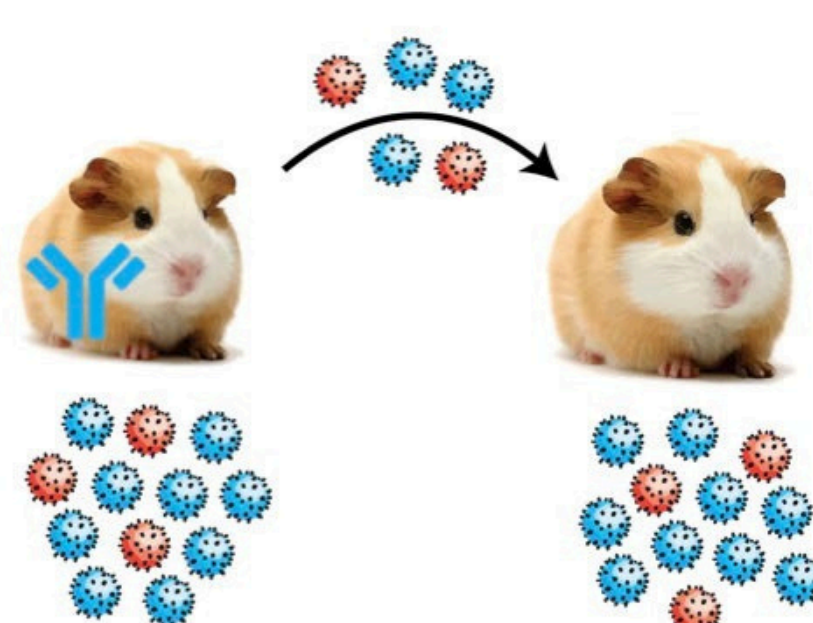
Aim 1.2



Vary frequency of antigenic variant

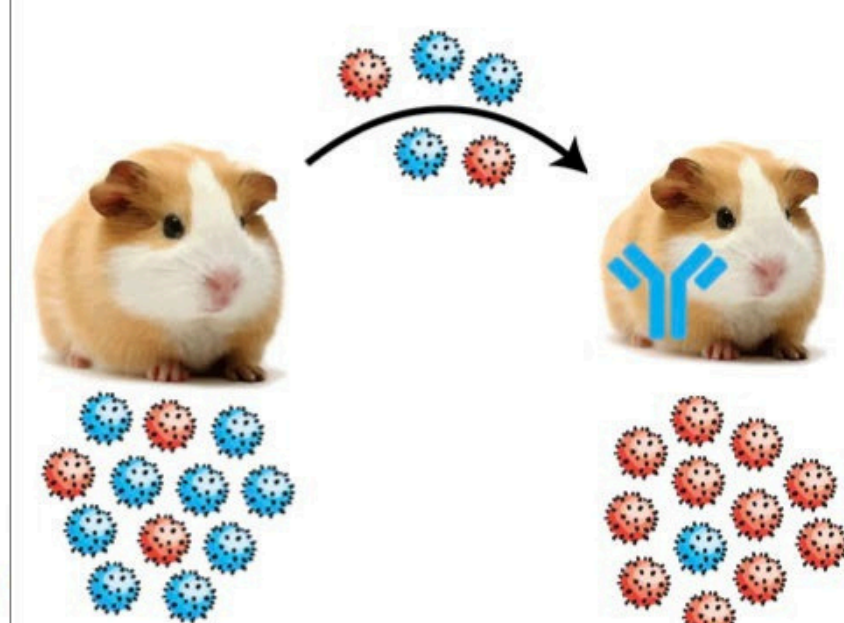
Aim 2: Examine the efficiency of selection between hosts

Aim 2.1



Donor host is pre-immune

Aim 2.2



Recipient host is pre-immune

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