



## Department of Tropical Medicine, Medical Microbiology and Pharmacology



### SEMINAR TRMD 690

## SARS-CoV-2 Biology and Countermeasure Development



I will present two COVID-19 studies. (i) We have developed a reverse genetic system and reporter virus for SARS-CoV-2. These genetic tools have been used for serodiagnosis, vaccine, and antiviral development. Using a reporter SARS-CoV-2-based neutralization assay, we have supported the preclinical development and phase 1/2 clinical trials of Pfizer/BioNTech's vaccine, leading to the first COVID-19 vaccine with 95% efficacy in humans; (ii) We recently showed that spike D164G substitution, which became dominant over the course of pandemic, significantly enhances viral replication in primary human airway cultures. When infecting hamsters, the D164G mutation increased viral fitness in the upper respiratory tract, but not in the lungs, supporting the increased potential for viral transmission.

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**Wednesday, January 20, 2021  
12:00 – 1:00 PM HST**

#### Zoom Details

Link: <https://zoom.us/j/94805199979>

Meeting ID: 948 0519 9979

Passcode: 539158

For further information, contact Dr. Vivek Nerurkar - Tel. 692-1668; email: [nerurkar@hawaii.edu](mailto:nerurkar@hawaii.edu)  
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