
Dissertation Defense - Miata Smith, MS Biology

May 10 2021 12:00 - 2:00 PM

VIEW EVENT

All are invited to attend the defense. For more information please contact Graduate Coordinator at kharrism@gmu.edu

Candidate: Miata Smith

Program: MS Biology

Date: Monday, May 10th, 2021

Time: 12:00 AM

Place: <https://gmu.zoom.us/j/3301986606?pwd=aWhkZHFFckszRk85dkFtenhGZEM3UT09>

Title: Efficacy of Brilacidin against Venezuelan Equine Encephalitis Virus (VEEV)

Committee Chair: [Dr. Aarthi Narayanan](#)

Committee Members: Dr. Marielena Pierbon, Dr. Lance Liotta

ABSTRACT:

Venezuelan Equine Encephalitis Virus (VEEV) is a positive-sense, single-stranded, enveloped-RNA alphavirus of the Togaviridae family that is transmitted through *Aedes aegypti* and *Aedes albopictus* mosquito species. There are no vaccines or therapeutic treatments available for VEEV, which exacerbates the need for better therapeutics. It is important to have therapeutics available that can inhibit viral replication and decrease the viral load early on to stop the progression of neurological illness or damage and lessen the severity of other associated symptoms. Brilacidin is a potential antiviral drug that can be used to inhibit VEEV infection given its mechanistic ability to interfere with viral replication at the cell membrane. The efficacy of Brilacidin in VEEV will be evaluated through a series of experiments that will explore the dynamic of inhibition, safe testing concentrations, and its peak window of efficacy to gain a better understanding of the mechanistic impact on the host cell's phospholipid bilayer in cell culture.