



Wednesday, March 9, 2022

4:00 P.M.

Ackert Hall, Room 120

Biochemistry  
&  
Molecular  
Biophysics

Seminar

## Nociceptor Neuron Regulation of Respiratory Viral infection

# Pankaj Baral

Division of Biology  
Kansas State University

Respiratory viral infections are the leading causes of illness and death. Our lab studies how our sensory nervous system interacts with the immune system during respiratory viral infection and pneumonia. The respiratory tract is densely innervated by sensory neurons that mediate breathing, cough, and other airway protective reflexes. Nociceptor neurons are a major sub-type of peripheral neurons that sense noxious/harmful stimuli and protect organisms from danger. Our previous work has discovered a critical role of nociceptor sensory neurons from the vagus nervous system in suppressing innate immunity against methicillin-resistant *Staphylococcus aureus* lung infection. However, their role in respiratory defense against viral infections has not been well-defined. We use influenza A virus and respiratory syncytial virus to induce lethal viral pneumonia in mice to investigate the neuronal regulation of viral infection and host defense.