



**THE OHIO STATE
UNIVERSITY**

INFECTIOUS DISEASES
INSTITUTE

Infectious Diseases Institute Faculty Hires

See below for research interests, areas of expertise and contact information

INFECTIOUS DISEASES INSTITUTE

Matt Anderson, Ph.D.

Anderson.3196@osu.edu

Microbial Communities, Host Defense and Microbiology
College of Arts and Sciences, Dept. of Microbiology; College
of Medicine, Dept. of Microbial Infection and Immunity

The Anderson lab investigates how evolution of genes and genomes contributes to phenotypic variation in the human fungal pathogen *Candida albicans*. Our groups combines experimental and computational approaches to produce and analyze datasets to dissect these relationships.



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Rajendar Deora, Ph.D

Microbial Infection and Immunity, Microbiology and
Veterinary Biosciences, OSU

- Microbial Communities: Biofilms and Immunity in chronic infections
- Host Defense and Microbial Biology

Hobbies: Reading fiction, Watching stand-up comedy



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Vanessa Hale, MAT, DVM, PhD

Hale.502@osu.edu

Microbial Communities

College of Veterinary Medicine, Veterinary Preventive
Medicine

We examine the role of the gut microbiome in disease susceptibility – including *Clostridioides difficile* and Chronic Wasting Disease. We use a combination of field work, clinical and population data, molecular lab work, models, and multi-omic technologies - with the goal of understanding how we can manipulate the microbiome to prevent or treat disease.



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Jonathan M. Jacobs, Ph.D.

jacobs.1080@osu.edu

Host Defense and Microbial Biology
College of Food, Agricultural, and Environmental Sciences
Plant Pathology

My team explores the evolutionary and biological basis for why pathogens emerge to cause diseases of plants. We focus on tissue-specific behavior of plant pathogenic bacteria, specially why some pathogen go to the vascular system while others remain local in non-vascular tissue. The overall goal is to understand the traits that contribute to host colonization to make informed solutions for plant disease management.



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Kou-San Ju, PhD

ju.109@osu.edu

Prevention, Detection and Therapies
Microbial Communities

College of Arts and Sciences, Microbiology

College Pharmacy, Medicinal Chemistry & Pharmacognosy

We combine approaches in chemistry, biochemistry, molecular genetics, and systems biology to discover new microbial natural products, understand their bioactivity, and to uncover the metabolic pathways of their biosynthesis. Ultimately, we seek to translate insights gained from our research to develop new antibiotics, herbicides, and industrial biocatalysts.



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Scott P Kenney, PhD

Kenney.157@osu.edu

Molecular virology approaches to determine mechanisms allowing cross species spread of zoonotic pathogens

College of Veterinary Medicine, Veterinary Preventive Medicine, Food Animal Health Research Program

Functional genomics approaches to identify virus/host protein interactions. Cross species transmission of coronaviruses, hepatitis E virus, porcine reproductive and respiratory syndrome virus, and other positive stranded RNA viruses.



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Sanggu Kim, PhD

kim.6477@osu.edu

Viruses and Emerging Pathogens
Prevention, Detection and Therapies
College of Veterinary Medicine, Veterinary Biosciences

We investigate the blood system functionality and viral evolution in HIV/AIDS therapy settings using innovative systems biology tools for quantitative and high-throughput analyses of blood cells and viruses at the single cell/virus level. The goal is to create more predictable and efficacious HIV/AIDS therapies.



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Namal Liyanage, PhD

namal.liyanage@osumc.edu

Host Defense and Microbial Biology

Viruses and Emerging Pathogens

College of Medicine, Microbial Infection and Immunity (Primary)

College of Veterinary Medicine, Veterinary Biosciences

We investigate novel strategies to prevent and control chronic viral infections such as HIV through better understanding of the innate and adaptive immune responses.



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Shan-Lu Liu, MD, PhD

Liu.6244@osu.edu

Viruses and Emerging Pathogens

College of Veterinary Medicine, Veterinary Biosciences

We study virus-host interaction, with particular focus on cellular factors that inhibit virus entry, assembly and release, as well as viral antagonisms. We use retroviruses, including HIV, Filoviruses, such as Ebolavirus and Marburg virus, as well as flaviviruses, in particular Zika virus and HCV, as model systems of study. Recent examples are IFITM, TIM, Viperin, SERINC, etc.



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Mark Mitton-Fry, Ph.D.

mitton-fry.1@osu.edu

Prevention, Detection, and Therapies (co-director)
Antimicrobial Resistance
College of Pharmacy, Medicinal Chemistry and
Pharmacognosy

We design and synthesize novel compounds to treat infections caused by multidrug-resistant bacterial pathogens. We collaborate broadly to interrogate the mechanism, efficacy, and safety of these new agents. Our goal is to deliver new medicines into clinical practice.



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Amit Sharma, PhD

sharma.157@osu.edu

Viruses and Emerging Pathogens

College of Veterinary Medicine, Veterinary Biosciences

College of Medicine, Microbial Infection & Immunity

Infection of macaques with chimeric SIV/HIV-1 viruses (SHIVs) is a critical model for HIV/AIDS research. The SHIV/macaque model is used to study viral transmission, pathogenesis, and for pre-clinical evaluation of therapeutic, vaccine and prevention strategies. Our research is improving the SHIV/macaque model by determining the viral and host factors that drive selection, adaptation, and pathogenicity of SHIVs in macaques.



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Sarah M. Short, Ph.D.

short.343@osu.edu, theshortlab.org

Host Defense and Microbiology

Viruses and Emerging Pathogens

College of Food Agricultural and Environmental Sciences, Entomology

We study the impact of the mosquito microbiome on mosquito immune defense and susceptibility to dengue and Zika viruses. Our approach combines molecular biology, “omics” technologies, organismal biology, and ecological genetics. Our goal: to elucidate underpinnings of variation in vector borne disease transmission to inform control strategies.



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Anastasia N. Vlasova, DVM, PhD

vlasova.1@osu.edu

Viruses and Emerging Pathogens

Host Defense and Microbial Biology

College of Food, Agriculture and Environmental Sciences

College of Veterinary Medicine, Veterinary Biosciences

Food Animal Health Research Program, Ohio Agricultural

Research and Development Center

We investigate how nutritional and microbial factors affect immunity and pathogenesis of enteric viruses. We also evaluate how some host related factors influence viral evolution and emergence. The goal is to design efficacious tools for control and prevention of emerging enteric viruses.



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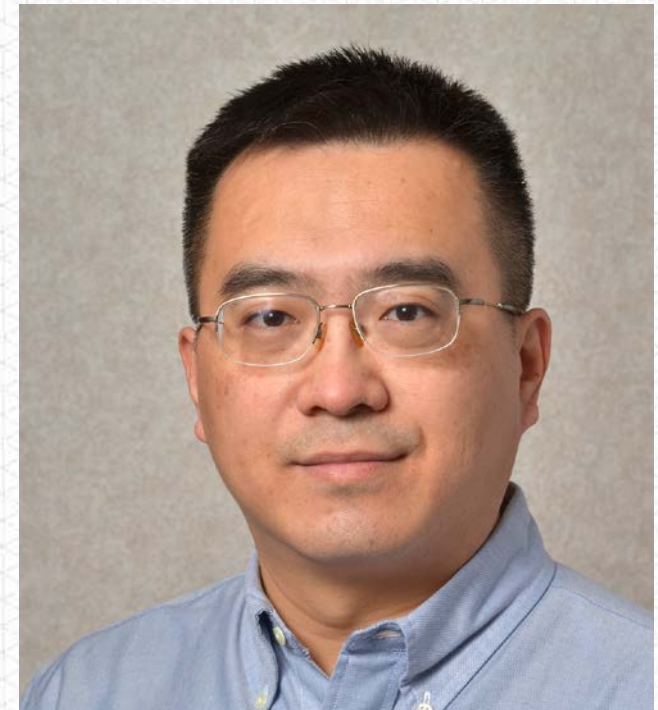
INFECTIOUS DISEASES INSTITUTE

Haitao Wen, Ph.D.

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Antimicrobial Resistance
Host Defense and Microbial Biology
Department of Microbial Infection and Immunity
The “James” Comprehensive Cancer Center
College of Medicine

We study metabolic regulation of innate immune signaling which affects host defense response against pathogen infection. Specifically we focus on individual glucose metabolic and mitochondrial metabolic pathways for antiviral and anti-bacterial response.



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