Infectious Disease Career Opportunities
Collaboration like never before.

Connections make this cluster of new tenure-track positions within Ohio State’s Infectious Disease focus area truly unique. These positions (cluster hires) were developed to be part of a highly collaborative, transdisciplinary faculty team. Together, they will help to connect existing strengths at Ohio State and bridge critical gaps. And they will forge rich new partnerships beyond the university to translate discoveries and innovation into solutions that improve life for people around the world.

New Faculty Positions Available in Four Thematic Investment Areas, they are:

**ANTIBIOTIC DISCOVERY & OPTIMIZATION**

**Position: Antimicrobial Drug Discovery**
College of Pharmacy, Division of Medical Chemistry and Pharmacognosy in partnership with College of Arts and Sciences, Department of Chemistry and Biochemistry
Potential research areas: Novel drug discovery approaches focused on preparing/isolating and identifying molecules as preclinical therapeutic candidates to treat drug resistant bacterial infections.

**Position: Pharmacokinetics and Pharmacodynamics of Antimicrobial Agents**
College of Pharmacy in partnership with College of Medicine, Division of Infectious Diseases
Potential research areas: Pharmacokinetics and pharmacodynamics (PK/PD) of new antimicrobial drug candidates and existing antimicrobial drug regimens.

**Position: Microbial Systems Biology**
College of Arts & Sciences, Department of Microbiology in partnership with College of Pharmacy
Potential research areas: Systems biology approaches to address modern challenges in antimicrobial therapeutics. Investigations of bacterial systems, focusing on in-depth understanding of metabolic capacity and dynamics, microbial responses to antibiotic stresses, or other aspects of antibacterial effects on microbes.

**TREATMENT AND PREVENTION OF EMERGING VIRUSES**

**Position: Retroviral Pathogenesis and Therapeutic Development**
College of Veterinary Medicine, Department of Veterinary Biosciences
Potential research areas: Fundamental mechanisms of host and retrovirus interactions that lead to novel therapeutic approaches. Research focusing on developing antiviral strategies against retroviral or HIV infection.

**Position: Adaptive Immunity to Viruses**
College of Veterinary Medicine, Department of Veterinary Biosciences in partnership with College of Medicine, Department of Microbial Infection and Immunity
Potential research areas: Basic mechanisms of adaptive immunity to viruses builds upon studies of innate immune responses and provides a foundation for building in the area of vaccine development.

**Position: Emerging Diseases of Livestock and Poultry**
College of Food, Agriculture, and Environmental Science, Food Animal Health Research Program, Ohio Agricultural Research and Development Center
Potential research areas: Mechanisms of host and pathogen interactions of emerging infectious viral diseases of food-animals.

**Position: Emerging and Zoonotic Viruses**
College of Food, Agriculture, and Environmental Science, Food Animal Health Research Program, Ohio Agricultural Research and Development Center
Potential research areas: Fundamental mechanisms of immunity to and host-virus interactions of human disease associated emerging zoonotic viral pathogens leading to development of effective detection, treatment, control and prevention measures.

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IMMUNITY TO INTRACELLULAR PATHOGENS AND LOCAL MICROBIAL COMMUNITIES

Position: Microbial Systems Biology
College of Arts & Sciences, Department of Microbiology in partnership with College of Medicine, Department of Microbial Infection and Immunity

Potential research areas: Systems biology approaches to integrate pathogen and host biology, including microbial dynamics and responses to host interactions, or other aspects of pathogen biology.

Positions: Immunity and Host-Microbe Interactions (3 positions)
College of Medicine, Department of Microbial Infection and Immunity in partnership with the College of Arts and Sciences, Department of Microbiology, and the College of Veterinary Medicine, Department of Veterinary Biosciences

Potential research areas: 1) Adaptive immune responses to pathogens and innate-adaptive immune cell interactions; 2) Novel microbial vaccine strategies and technologies including adjuvants and mucosal delivery systems; 3) Microbial community research that focuses on physiologically relevant systems to interrogate biofilms, microbiota and mucosal immune responses.

PATHOGENEMERGENCE

Position: Emerging Infectious Disease Ecology
College of Food, Agriculture, and Environmental Science, Department of Plant Pathology

Potential research areas: Ecology or ecological genomics of emerging infectious diseases of plants. Research topics may include, but are not limited to, (1) epidemiology of invasive plant pathogen species, including the role of global change in the susceptibility to invader pathogens, from a host or phytobiome perspective; and (2) emergence and evolution of invasive traits (including virulence/aggressiveness) in indigenous plant pathogens and/or analysis of microbial or plant traits that promote plant pathogen invasion.

Position: Predictive Ecosystem Modeling
College of Arts and Sciences, Department of Molecular Genetics

Potential research areas: Modeling host-pathogen interactions and their genetic underpinnings, with the goal of predicting the evolutionary trajectories of emerging and re-emerging pathogens. How environmental change alters the distribution and impact of pathogens and their vectors.

Position: Environmental Health Science
College of Public Health, Division of Environmental Health Sciences

Potential research areas: Characterization of environmental settings for presence or absence of potential pathogens, including mutagenic changes related to microbial resistance and persistence relative to the dynamics of host-pathogen interactions; the ability of ecosystems to enhance spread of support human needs, or conversely to encourage the spread of pathogens.

For more information about career opportunities in infectious disease detection, treatment and prevention visit Discovery.osu.edu.

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