

# University of Pennsylvania CEIRR

The Penn-CEIRR Center, with backing from NIAID, specializes in longitudinal human studies, viral surveillance in animals, and computational modeling to study the immune responses to influenza infection and vaccination from the population level down to individuals, revealing the risks posed by emerging flu strains.

**35+**  
Investigators

**20+**  
Institutions

**6100+**  
Sequences

**145+**  
Publications

**12+**  
Clinical Studies

## Principal Investigator:

- **Scott Hensley, Ph.D.**  
University of Pennsylvania

## Publication Highlights

Dairy cows inoculated with highly pathogenic avian influenza virus H5N1.  
**PMID 39406346**

Emergence and interstate spread of highly pathogenic avian influenza A (H5N1) in dairy cattle in the United States.  
**PMID 40273240**

Immune history shapes human antibody responses to H5N1 influenza viruses.  
**PMID 40082696**

The role of viral interaction in household transmission of symptomatic influenza and respiratory syncytial virus.  
**PMID 39893197**



## Longitudinal Human Studies

- Quantify viral transmission in households and the community
- Characterize individual immunity to viral infection over time
- Isolate and sequence human flu viruses



## Computational Modeling Core

- Train CEIRR in analysis, visuals, and modeling
- Develop software tools
- Advance computational models and metrics



## Risk Assessment

- Surveil flu viruses in swine and birds
- Develop risk assessment tools and response strategies
- Assess and characterize how prior immunity affects protection against new flu strains