

Curriculum Vitae

**Gwenddolen Kettenburg**  
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EDUCATION

**PhD, Ecology and Evolution** **2021-Present**

*University of Chicago, Chicago, IL*

- Mentor: Cara Brook, PhD
- Currently pre-candidacy status (2<sup>nd</sup> year)

**MS, Infectious Diseases and Microbiology** **2018-2020**

*University of Pittsburgh, Graduate School of Public Health, Pittsburgh, PA*

- Mentor: Simon Barratt-Boyes, BVSc, PhD, DACVIM
- Thesis title: *Developing a Model of H5N1 Influenza Pathogenesis in Precision-Cut Human Lung Slices*

**BS, General Biology** **2014-2018**

*Keystone College: La Plume, PA*

- Minors: Chemistry, Public Health
- Mentors: Vicki Stanavitch, PhD and Daryl Horn, PhD
- Thesis title: *A Comparison of the Synergistic Effect Between Bacteriophages and Antibiotics on E. coli B and C Wild Type and E. coli B and C Phage Resistant Cells*

PROFESSIONAL EXPERIENCE

**Research Specialist III** **2019-2021**

- University of Pittsburgh, Dept. of IDM, GSPH

**SURF Research Fellow, SUNY Upstate Medical University** **May-August 2018**

- SUNY ESF, Dept. of Environmental Biology

**Work Study Lab Assistant** **2016-2018**

- Keystone College, Dept. of Biology

RESEARCH EXPERIENCE

*University of Chicago, Chicago IL, Mentor: Cara Brook* **2021-Present**

- Developing PCR assays to determine ecological stressors affecting viral shedding in Malagasy fruit bats over longitudinal scales
- Investigating novel bat coronavirus and picornavirus sequences from past genomic datasets

*University of Pittsburgh, Pittsburgh PA, Mentor: Simon Barratt-Boyes* **2018-2021**

- Development of precision-cut lung slice model to investigate cell death pathway activation upon H5N1 avian influenza virus infection and subsequently try to inhibit cell death pathways with inhibitors
- Support for aerosol model of H5N1 infection of non-human primate studies, performing assays at timepoints and processing samples
- Support for collaboration with Sally Wenzel, MD, Department of EOH, GSPH, in infecting isolated human bronchial epithelial cells from asthmatic donors with SARS-CoV-2 for studies of COVID-19 and asthma

*SUNY College of Environmental Science and Forestry, Syracuse NY, Mentor: Brian Leydet* **2018**

- Examined seroprevalence of *Borrelia miyamotoi* in donated deer sera samples from New York, USA using western blotting techniques to look for presence of glpQ, a protein used to differentiate *Borrelia miyamotoi* from *Borrelia burgdorferi*

Keystone College, La Plume PA, Mentors: Vicki Stanavitch and Daryl Horn

**2016-2018**

- Surveyed *Ixodes scapularis* populations from northeastern counties in Pennsylvania for *Borrelia burgdorferi*, *Ehrlichia phagocytophila*, *Babesia microti*, and *Anaplasma phagocytophilum* after tick dragging

## PUBLICATIONS

- **Kettenburg G**, Kistler A, Ranaivoson HC, Ahyong V, Andrianiaina A, Andry S, DeRisi JL, Gentles A, Raharinosy V, Randriambolamanantsoa TH, Ravelomanantsoa NAF, Tato CM, Dussart P, Heraud JM, and Brook CE. Full genome *Nobecovirus* sequences from Malagasy fruit bats define a unique evolutionary history for this coronavirus clade. *Frontiers in Public Health*. doi: <https://doi.org/10.3389/fpubh.2022.786060>
- Jacqueline Corry, **Gwenddolen Kettenburg**, Amit. A Upadhyay, Megan Wallace, Michelle M. Marti, Elizabeth R. Wonderlich, Stephanie J. Bissel, Kyndal Goss, Timothy J. Sturgeon, Simon C. Watkins, Douglas S. Reed, Steven E. Bosinger, Simon Barratt-Boyes. Infiltration of inflammatory macrophages and neutrophils and widespread pyroptosis in lung drive lethality in nonhuman primates. *PLoS Pathogens*. doi: [10.1371/journal.ppat.1010395](https://doi.org/10.1371/journal.ppat.1010395)

## PRESENTATIONS, WORKSHOPS AND TALKS

### *Presentations and talks*

#### **International Bat Research Conference**

**2022**

- Talk titled “Insights from whole genome sequences of Madagascar bat viruses”

#### **3<sup>rd</sup> International Symposium on Infectious Diseases of Bats**

**2022**

- Poster presentation titled “Insights from whole genome sequences of Madagascar bat viruses”

#### **Ecology and Evolution of Infectious Diseases 2022 International Workshop and Conference**

**2022**

- Virtual poster titled “Molecular tools to determine mechanisms underpinning bat viral persistence in the Madagascar ecosystem”

#### **IDM Seminar Presentation, University of Pittsburgh**

**2019**

- Talk titled “Developing a Model of H5N1 Influenza Pathogenesis in Precision-Cut Human Lung Slices”

#### **IDM Research Day Poster Session, University of Pittsburgh**

**2019**

- Poster presentation titled “Developing a Model of H5N1 Influenza Pathogenesis in Precision-Cut Human Lung Slices”

#### **SUNY Upstate SURF REU Research Day, SUNY Upstate Medical University**

**2018**

- Poster presentation titled “*Borrelia miyamotoi* Exposure in White-Tailed Deer from New York, United States”

#### **Undergraduate Research at the Capitol, Keystone College**

**2018**

- Poster presentation titled “Tick-borne Disease Prevalence in Northeastern Pennsylvania’s *Ixodes Scapularis* Population”

#### **Capstone Research Day Presentation and Poster Session, Keystone College**

**2018**

- Poster presentation titled “A Comparison of the Synergistic Effect Between Bacteriophages and Antibiotics on *E. coli* B & C Wild Type and *E. coli* B & C Phage Resistant Cells”

### Workshops

**Clinic on Dynamical Approaches to Infectious Disease Data** 2021

- Attended selective workshop to strengthen disease modeling skills

### AWARDS

**Keystone Innovation Award**, Keystone College 2018

- Awarded upon completion of Capstone project after developing novel research idea and performing original research (one person selected in school-wide graduating class)

### TEACHING

**Fundamentals of Ecology and Evolution**, *Teaching Assistant* Winter quarter 2023

- BIOS 20153: University of Chicago undergraduate class. Led and graded lab section, facilitated paper discussions.

**E2M2: Ecological & Epidemiological Modeling in Madagascar**, *Instructor* December 2022

- Designed and gave lecture “Introduction to Phylogenetic Modeling”, mentored student’s projects throughout the week-long workshop

### SERVICE AND OUTREACH

**GBatNet working group co-leader** 2022-present

- “How has the bat immune system evolved and influenced bat diversification?”
- “How old is this bat?”

**E2M2: Ecological and Epidemiological Modeling in Madagascar** December 2022

- On organizing committee

**University of Chicago Graduate Council**, *Biological Science Division representative* 2021-2022

- Member of health and wellness committee

**University of Chicago, Ecology and Evolution**, *admissions committee member* AY2022 application cycle

### MEMBERSHIPS

GBatNet Student Representative 2022-current

### REFERENCES

Available on Request