

**JENNIFER K. PETERSON, PHD**  
[jkp@udel.edu](mailto:jkp@udel.edu) | 302-831-0155 (office)  
[www.jennipeterson.com](http://www.jennipeterson.com)

## **EDUCATION AND TRAINING**

---

- 2011-2015    Ph.D in Ecology & Evolutionary Biology  
Princeton University  
“Life history consequences of infection with Chagas disease agent *Trypanosoma cruzi* for its invertebrate host *Rhodnius prolixus*”
- 2009-2011    M.A. in Ecology & Evolutionary Biology  
Princeton University
- 2006-2008    Post-baccalaureate certification, Ecology, Evolution and Environmental Biology  
Columbia University
- 1997-2001    BFA in Theater Arts  
Rutgers University

## **EMPLOYMENT**

---

- 2023-current    Assistant Professor of Medical Entomology  
Department of Entomology and Wildlife Ecology  
University of Delaware
- 2022-23        Postdoctoral Research Associate  
Department of Biological Sciences  
University of Notre Dame  
PI: Prof. Alex T. Perkins
- 2022            Adjunct Professor  
College of Arts & Sciences  
Lewis and Clark College
- 2019-2021    Adjunct Assistant Professor of Natural Sciences  
University Honors College  
Portland State University
- 2018-2022    Research Affiliate  
Center for Clinical Epidemiology & Biostatistics  
University of Pennsylvania  
PI: Prof. Michael Z. Levy
- 2017-18        Post-doctoral Researcher  
Center for Clinical Epidemiology & Biostatistics  
University of Pennsylvania  
PI: Prof. Michael Z. Levy
- 2016            Lecturer

Department of Ecology and Evolutionary Biology  
Princeton University

- 2015-2016 Post-doctoral Researcher  
Department of Ecology and Evolutionary Biology  
Princeton University  
PI: Prof. Andrew P. Dobson
- 2009-2015 Graduate Assistant in Instruction  
Department of Ecology and Evolutionary Biology  
Princeton University
- 2008-2009 Research Assistant  
Sackler Institute for Comparative Genomics  
American Museum of Natural History, New York City

**PUBLICATIONS IN REFEREED JOURNALS (ORCID ID: 0000-0002-0274-6143)**

---

\*SENIOR AUTHOR    ^CORRESPONDING AUTHOR    + STUDENT MENTORED BY JK PETERSON

22. Varian CP, Saldaña A, Calzada JE, Abad-Franch F, Kieran TJ, Padukone A+, Peterson JK, Gottdenker NL. (2023). Community structure and microenvironment affect Chagas disease vector infection and abundance in a rural landscape. *Ecosphere*: 14(1): e4347.
21. Arevalo-Nieto C, Sheen J<sup>+</sup>, Condori-Luna GF, Shinnick J, Peterson JK, Castillo-Neyra R, Levy MZ. (2022). Incentivizing Multiple Objectives in Evidence-based, Active Surveillance for Urban Disease Vectors. *PLOS Glob Public Health* 2(8): e0000145
20. Peterson JK, Bazuka J, Standley CJ. (2021). One Health and Neglected Tropical Diseases – Multisectoral solutions to endemic challenges. *Tropical Medicine and Infectious Diseases*: 6(1): 4.
19. Billig Rose E, Roy JA, Castillo-Neyra R, Ross ME, Condori-Pino C, Peterson JK, Naquira-Velarde C, Levy MZ. (2020). A real-time search strategy for finding urban disease vector infestations. *Epidemiologic Methods*: 9(1).
18. Hylton A<sup>+</sup>, Fitzpatrick DM, Suepaul R<sup>+</sup>, Dobson AP, Charles RA, Peterson JK\*<sup>^</sup>. (2020). Preliminary characterization of triatomine bug blood meals on the island of Trinidad reveals opportunistic feeding behavior on both human and animal hosts. *Tropical Medicine and Infectious Diseases*: 5(4): 166. Paper resulting from A. Hylton undergraduate senior thesis, supervised by JK Peterson.
17. Peterson JK\*<sup>^</sup>, Yoshioka K, Hashimoto K, Caranci A, Gottdenker N, Dorn P, Monroy C, Rodriguez S, Saldaña A, Zuniga C. (2019). Epidemiology of Chagas disease in Central America: An Update. *Current Tropical Medicine Reports*: 6, 92-105.
16. Peterson JK\*<sup>^</sup>, Hashimoto K, Yoshioka K, Dorn P, Gottdenker N, Caranci A, Stevens L, Zúniga C, Saldaña A, Rodriguez S, Monroy C. (2019). Chagas disease in Central America: Recent findings and current challenges in vector ecology and control. *Current Tropical Medicine Reports*. 6, 76-91.

15. Gutfraind A<sup>1</sup>, Peterson JK (Co-first author)<sup>1</sup>, Billig Rose E, Arevalo-Nieto C, Sheen J<sup>+</sup>, Condori-Luna GF, Tankasala N, Castillo-Neyra R, Condori-Pino C, Anand P, Naquira-Velarde C, Levy MZ. (2018). Integrating evidence, models, and maps to enhance Chagas disease vector surveillance. *PLoS Neglected Tropical Diseases*: 12(11): e0006883. <sup>1</sup>Both authors contributed equally to this work.
14. Peterson JK<sup>1</sup>, Salazar R<sup>1</sup>, Castillo-Neyra R, Borrini K, Condori C, Bartow-McKenney C, Tracy D, Naquira C, Levy, MZ. (2018). Trypanosoma cruzi infection does not decrease survival or reproduction of the common bed bug, Cimex lectularius. *Am J Trop Med Hyg*: 98(3): 724-734. <sup>1</sup>Both authors contributed equally to this work.
13. Cucunubá ZM, Nouvellet P, Peterson JK, Bartsch SM, Lee BY, Dobson AP, Basañez MG. (2018). Complementary Paths to Chagas Disease Elimination: The Impact of Combining Vector Control with Aetiological Treatment. *Clinical Infectious Diseases*: 66(suppl\_4): S293–S300.
12. Bartsch SM, Peterson JK, Hertenstein DL, Skrip L, Ndeffo-Mbah M, Galvani A, Dobson AP, Lee BY. (2017). Comparison and validation of two computational models of Chagas disease: a thirty year perspective from Venezuela. *Epidemics*: 18:81-91.
11. Peterson JK<sup>^</sup>, Graham AL, Elliott RJ<sup>+</sup>, Dobson AP, Triana Chávez O. (2016). Trypanosoma cruzi - Trypanosoma rangeli co-infection ameliorates negative effects of single trypanosome infections in experimentally infected Rhodnius prolixus. *Parasitology*: 143(9): 1157-67. Contains work resulting from R. Elliott undergraduate senior thesis, supervised by JK Peterson.
10. Peterson JK<sup>^</sup>, Graham AL. (2016). What are the ‘true’ effects of T. rangeli on its triatomine bug vector? *Journal of Vector Ecology*: 41(1):27-33.
9. Gottdenker NL, Chávez LF, Calzada JE, Peterson JK, Santamaría A, Pineda V, Saldaña A. (2016). Trypanosoma cruzi and Trypanosoma rangeli co-infection patterns in insect vectors vary across habitat types in a fragmented forest landscape. *Parasitology Open*: 2, E10.
8. Peterson JK<sup>^</sup>, Bartsch SM, Lee BY, Dobson, AP. (2015). Broad patterns in domestic vector-borne Trypanosoma cruzi transmission dynamics: synanthropic animals and vector control. *Parasites & Vectors*: 8:537.
7. Peterson JK<sup>^</sup>, Graham AL, Dobson AP, Triana Chavez, O. (2015). Rhodnius prolixus life history outcomes differ when infected with different Trypanosoma cruzi I strains. *American Journal of Tropical Medicine and Hygiene*: 2;93(3): 564-72.
6. Hollingsworth TD, Adams ER, Anderson RM, [and 43 others, including, Peterson JK]. (2015). Quantitative analyses and modeling to support achievement of the 2020 goals for nine neglected tropical diseases. *Parasites & Vectors*: 8:630.
5. Castro LA<sup>1+</sup>, Peterson JK (Co-first author)<sup>1</sup>, Saldaña A, Peirrerera MY, Calzada JE, Pineda V, Dobson AP, Gottdenker NL. (2014). Use of a tethered flight mill to measure flight behavior and performance of Rhodnius pallenscens. *Journal of Medical Entomology* 51(5): 1010-1018. <sup>1</sup>Both authors contributed equally to this work.

4. Echeverry-Galvis MA, Peterson JK, Sulo R. (2014). The Social Network: Tree Structure Determines Nest Placement in Kenyan Weaver Bird Colonies. PLoS ONE 9(2): e88761.
3. Dias IMG, Amato G, Cunha HM, DeSalle R, Paglia AP, Peterson JK, Fonseca CG. (2009). Isolation, characterization, and cross-species amplification of new microsatellite markers for three opossum species of the Didelphidae family. Conservation Genetics Resources 1,1: 405-410.
2. Hutton RL<sup>+</sup>, Triana O, Dobson AP, Peterson JK\*. (2023). Disease vector knowledge and healthcare seeking behavior in an endemic urban landscape. In prep. Target journal: Parasites and vectors. Manuscript resulting from R. Hutton undergraduate senior thesis, supervised by JK Peterson.
1. Peterson JK, Dobson AP, Triana O, Graham AL. (2023). Infection event characteristics that influence *Rhodnius prolixus* survival. In prep. Target journal: Ecological entomology.

### **HONORS AND AWARDS**

---

- 2021 Ecological Society of America Opportunity Fund Registration Grant
- 2020 PSUFA Faculty Development Grant
- 2017 Co-investigator, Global Research Collaboration Grant, University of Georgia (PI: NL Gottdenker)
- 2014 Crafted Chagas disease-specific content for successful Bill & Melinda Gates Foundation / Task Force for Global Health Award
- 2014 Princeton Emerging Alumni Scholars Award
- 2013 Princeton Program for Latin American Studies Summer Graduate Research Grant
- 2013 Princeton Institute for International and Regional Studies Research Grant
- 2012 Princeton Program for Latin American Studies Summer Graduate Research Grant
- 2011 Health Grand Challenges/ Princeton Center for Health and Wellbeing Graduate Research Award

### **PRESENTATIONS AT INTERNATIONAL CONFERENCES & INVITED LECTURES**

---

- 2022 Society of Vector Ecology; Honolulu, Hawaii  
Poster
- 2021 University of the West Indies; St. Augustine, Trinidad  
Invited lecture
- 2021 Ecology and Evolution of Infectious Diseases (EEID); virtual  
Poster
- 2021 Instituto Costarricense de Investigación y Enseñanza en Nutrición y Salud (INCIENSAS); San Jose, Costa Rica  
Invited lecture (presented in Spanish)
- 2020 American Society of Tropical Medicine and Hygiene Meeting; virtual  
Poster
- 2019 Ecology and Evolution of Infectious Diseases (EEID); Princeton, NJ  
Poster
- 2017 American Society of Tropical Medicine and Hygiene Meeting; Baltimore, MD.  
Speaker
- 2017 Ecology and Evolution of Infectious Diseases (EEID); Santa Barbara, CA  
Poster
- 2017 VI International Conference on Infectious Tropical Diseases; Iquitos, Perú.  
Invited speaker (presented in Spanish)

- 2016 22<sup>nd</sup> Meeting of the Intergovernmental Commission for the Subregional Southern Cone Initiative for the Elimination of *Triatoma infestans* and the Interruption of Transfusional Transmission of American Trypanosomiasis (INCOSUR/Chagas); Asunción, Paraguay.  
Invited speaker (presented in Spanish)
- 2016 American Society of Tropical Medicine and Hygiene Meeting; Atlanta, GA.  
Session chair
- 2016 XIX International Congress for Tropical Medicine and Malaria; Brisbane, Australia.  
Speaker
- 2015 American Society of Tropical Medicine and Hygiene Meeting; New Orleans, LA.  
Invited Session chair & Speaker
- 2014 Entomological Society of America, 62<sup>nd</sup> Annual Meeting; Portland, OR.  
Session creator, organizer & chair
- 2014 American Society of Tropical Medicine and Hygiene Meeting; Philadelphia, PA.  
Speaker.
- 2014 13<sup>th</sup> International Congress of Parasitology (ICOPA); Mexico City, Mexico.  
Poster
- 2013 Centro Internacional de Entrenamiento e Investigaciones Medicas (CIDEM); Cali, Colombia  
Invited lecture
- 2013 XXI Congreso Latinoamericano de Parasitología; Guayaquil, Ecuador.  
Speaker (presented in Spanish)
- 2012 XVIII International Congress for Tropical Medicine and Malaria; Rio de Janeiro, Brazil.  
Poster
- 2011 Congreso Latinoamericano de Parasitología; Bogotá, Colombia.  
Poster

#### **PARTICIPATION IN THE SCIENTIFIC COMMUNITY**

- Editorial board member, PLoS Global Public Health
- Section editor, “Emerging vector-borne diseases in the U. S.,” Current Tropical Medicine Reports. [https://link.springer.com/journal/40475/topicalCollection/AC\\_84ba26d60dbccd07bc01f334ad5c6973](https://link.springer.com/journal/40475/topicalCollection/AC_84ba26d60dbccd07bc01f334ad5c6973)
- Guest editor, special issue, “One health and Neglected Tropical Diseases,” Tropical Medicine and Infectious Disease. <https://doi.org/10.3390/books978-3-0365-0287-8>
- Guest blogger, BMC’s ‘Bugbitten’ blog
- Grant reviewer for The National Science Foundation
- Manuscript reviewer for:
 

American Journal of Tropical Medicine and Hygiene	Parasites & Vectors
BMC Infectious Diseases	Parasitology International
Infectious Diseases of Poverty	Peer J
Insects	PLoS Neglected Tropical Diseases
International Journal for Parasitology	Scientific Reports
Journal of Medical Entomology	Trends in Parasitology
Lancet Global Health	Veterinary Parasitology
Medical and Veterinary Entomology	Zoonoses and Public Health
- Member of:
  - Society of Vector Ecology (2022)
  - Ecological Society of America (2021-present)
  - American Society of Tropical Medicine and Hygiene (2012- 2020)
  - Society for Advancement of Chicano/Hispanics and Native Americans in Science (2015-16)
  - Entomological Society of America (2013-14)

## **PUBLIC INTEREST WRITING AND BLOGS**

Book review: Population Biology of Vector-Borne Diseases. Ecology and Evolution of Infectious Diseases Series edited by John M. Drake, Michael B. Bonsall, and Michael R. Strand. The Quarterly Review of Biology 2023 98:3, 190-191

“Parasites and Vectors: The original renegades” in Bugbitten, May 2021

<https://blogs.biomedcentral.com/bugbitten/2021/05/28/parasites-and-vectors-the-original-renegades/>

“Spreading like wildfire? Parasites in a pyrophilic world” in Bugbitten, September 2020.

<https://blogs.biomedcentral.com/bugbitten/2020/09/25/spreading-like-wildfire-parasites-in-a-pyrophilic-world/>

“What the Heck is Chikungunya?” in Medellin Living, July 2015.

<https://medellinliving.com/chikungunya/>

“DIY Insect Displays: Kissing Bug edition” in Popular Science, June 2014.

<https://www.popsci.com/blog-network/our-modern-plagues/diy-insect-displays-kissing-bug-edition>

“Patologías: Explosión Cambrica” in Clickeros, Canal U, Medellín, Colombia, November 2013.

[http://jennipeterson.com/in-the-media/#mg\\_id\\_192](http://jennipeterson.com/in-the-media/#mg_id_192)

“Enfermedad de Chagas” on Conexión Antioquia Radio, November 2013.

Unfortunately, this program is not available online.

## **TEACHING AND MENTORING**

---

2022 Instructor

Introduction to Statistics (PSY 200)

College of Arts and Sciences

Lewis and Clark College, Portland, OR

- In-person delivery of introductory statistics course required for undergraduate social and biological science majors
- Designed original material to illustrate key concepts including group labs, projects, lectures, quizzes, and problem sets.
- Lessons ranged from descriptive statistics, probability, correlation, and regression to basic inferential tests including t-test, ANOVA, and chi square
- Emphasized the value of understanding of why statistics is done, what statistics can and cannot do, and how to interpret results, using real examples from a variety of disciplines
- Guided students in carrying out data management, analysis, and visualization, both by hand and using spreadsheet software

2021 Instructor

Thesis Prospectus (HON 403; conducted both in person and online)

University Honors College

Portland State University, Portland, OR

- Delivered an online, synchronous, required all-majors course to support students in initiation of advisor-student working relationship and completion of Honors Senior Thesis prospectus
- Conducted course in online environment (D2L), using tools such as discussion forums, assignment boards, announcements, and Google apps.
- Designed written materials intended to guide students in finding a thesis advisor, conducting productive meetings, and staying on top of strict work deadlines
- Mentored students in best practices in written communication with faculty members
- Conducted periodic one on one meetings with students to review progress and outline next steps
- Developed original peer review assignments aimed to spur critical discourse and analysis between interdisciplinary students
- Served as a sounding board for students transitioning from classroom learners of pre-specified information to independent scholars making individual choices

2020- Instructor

2021 Thesis Continuation (HON 403C)

University Honors College

Portland State University, Portland, OR

- Delivered an online, asynchronous required course meant to support students in the completion of their undergraduate senior research theses.
- Conducted course in online environment (D2L), using tools such as discussion forums, assignment boards, announcements, and Google apps.
- Guided students in setting deadlines and making realistic goals for thesis progress.
- Required periodic advisor reports to ensure students communicated with their advisors
- Provided resources for thesis completion including writing tools and reference management software.
- Worked individually with students to resolve a variety of problems related to their theses, including communication with advisors, computing software issues, and emotional issues.
- Created peer-review groups based on feedback from students, and provided opportunities and guidance on conducting peer-review.

2019- Instructor

2020 Urban ecology (HON 203; in-person and online courses)

University Honors College

Portland State University, Portland, OR

- Delivered an all-majors required course in which natural science methods are taught through an Urban Ecology framework
- Conceived of original assignments (papers, labs, presentations, worksheets, games) aimed at developing critical thinking skills, improve formal writing skills, focus students on attention to detail, and develop subject matter expertise for students with a wide range of experience in the sciences
- Presented lesson topics ranging from conceptual (e.g. evolution via natural selection) to technical (e.g., experimental design) to quantitative (e.g., biostatistics)
- Taught students how to extract key information from academic literature
- Worked rigorously with each student to improve their writing, with evident marked improvements in many students at course completion
- Guided students through a term-long field project for which students collected data for an international wildlife network, and subsequently analyzed the data, reported findings, and interpreted their meaning
- Incorporated frequent group discussion, group activities, and field trips into course
- Graded all student work using detailed rubrics and extensive written feedback
- Concluded course with student presentations and written reports on a research topic of the students' choice formatted as a formal research proposal
- Provided timely feedback through email, in-person meetings, and weekly office hours

2016 Lecturer

Ecology and Epidemiology of Parasites and Infectious Diseases (EEB 328)

Princeton University, Princeton, NJ

- Designed syllabi, managed and delivered a field course integrating classroom and field activities in Gamboa, Panamá
- Lectured on topics ranging from parasitology to mathematical modeling of disease transmission
- Organized field trips and lectures at other scientific institutions in Panama to provide exposure to all

facets of tropical biological research (Gorgas National Health Institute, Smithsonian Tropical Research Institute, and Barro Colorado Island)

2010- Mentor and occasional lecturer

2016 Ecology and Evolutionary Biology  
Princeton University, Princeton, NJ

- Supervised and mentored students, as detailed on the following pages
- Lectured in undergraduate courses

2012- Instructor

2013 Ecology and Evolutionary Biology  
Senior thesis writing group  
Princeton University, Princeton, NJ

- Conducted weekly meetings to guide undergraduate seniors in the development of their theses
- Designed and led activities aimed at improving student skills in scientific writing
- Helped in data analysis and the construction of each thesis chapter
- Gave individual feedback over email and in one on one meetings

#### **SUPERVISION AND MENTORING OF GRADUATE CANDIDATES**

---

2021- Doctoral thesis supervisor,

present Rod Suepaul, PhD student, Department of Environmental Biology, University of the West Indies, Trinidad and Tobago

Thesis: “Chagas disease determinants and distribution in Trinidad”

2017- Doctoral thesis committee member

2023 Kaylee Arnold, PhD Student, Interdisciplinary Disease Ecology Across Scales (IDEAS), Odum School of Ecology, University of Georgia

Thesis: “Vector microbiome-pathogen-environment associations across multiple scales: Implications for Chagas disease transmission”

2015 Summer research project supervisor

Hannelore MacDonald, MPH student, Mailman School of Public Health, Columbia University  
Project: “The role of non-human reservoirs in sustaining *T. cruzi* transmission across different transmission scenarios.”

#### **SUPERVISION AND MENTORING OF UNDERGRADUATE SENIOR THESES**

---

2017- Francisca Bermudez,

2018 Department of Ecology and Evolutionary Biology, Princeton University

Thesis: “Applying next-generation sequencing to the genetics and ecology of *Rhodnius*, A vector of Chagas disease”

2016- Alexandra Hylton (Eakes),

2017 Department of Ecology and Evolutionary Biology, Princeton University

Thesis: “Chagas disease ecology on the islands of Trinidad and Grenada: distribution, blood meal sources and *Trypanosoma cruzi* infection prevalence in triatomine bugs”\*

**\*Cannon Prize for best presentation of a senior Thesis.**

**Work published in Hylton, et al., 2020 (see publication list above).**



- 2016- Adriana Stephenson  
 2017 Department of Ecology and Evolutionary Biology, Princeton University  
 Thesis: “*Trypanosoma cruzi* infection in non-human hosts: state of the art after 106 years of research”
- 2016- Kathleen Mulligan  
 2017 Department of Ecology and Evolutionary Biology, Princeton University  
 Thesis: “Effect of temperature and local variation in mosquito vectors on the transmissibility of dengue fever in Machala, Ecuador”
- 2015- Anchal Padukone  
 2016 Department of Ecology and Evolutionary Biology, Princeton University  
 Thesis: “Relationships between microhabitat characteristics and the abundance of a Chagas disease vector, *Rhodnius pallescens*, in central Panama.”
- 2015- Thomas Yetter  
 2016 Department of Ecology and Evolutionary Biology, Princeton University  
 Thesis: “Attraction of Chagas disease vector *Rhodnius pallescens* to artificial light sources.”
- 2015- Roberta Hutton  
 2016 Department of Ecology and Evolutionary Biology, Princeton University  
 Thesis: “Vector control and health care-seeking behavior: Chagas disease and dengue fever in Medellín, Colombia”
- 2014- Ryan Elliott  
 2015 Department of Ecology and Evolutionary Biology, Princeton University  
 Thesis: “Triatomine and trypanosomes: Fitness impacts of *Trypanosoma cruzi* and *Trypanosoma rangeli* mono- and co-infections in the triatomine vector *Rhodnius prolixus*”  
**\*Department prize for best laboratory thesis poster**  
**A portion of this work is published in Peterson et al 2016, Parasitology, with Mr. Elliott as co-author.**
- 2012- Lauren Castro  
 2013 Department of Ecology and Evolutionary Biology, Princeton University  
 Thesis: “Flight performance and trypanosome infection of the Chagas disease vector *Rhodnius pallescens*: implications for the spatio-temporal spread of *Trypanosoma cruzi* in rural landscapes.”  
**Work published in Castro et al 2014 (in publication list above).**