

IAN PSHEA-SMITH, MPH

MEDICAL GEOGRAPHER & GLOBAL HEALTH EPIDEMIOLOGIST

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EDUCATION

PhD, Medical Geography and Global Health | Projected defense: May 2026

University of Florida, Gainesville, Florida

Awards: Verena Lighthouse Scholar, Evan Coe Medical Geography Awards (Travel & Excellence), Distinguished Teaching Award, two oral presentation awards & one poster presentation award

Dissertation: Modeling Vector Ecologies Using Frameworks from Geography, Community Ecology, and Public Health

MPH, Global Health Epidemiology

University of Michigan, Ann Arbor, Michigan

Awards: Latin American and Caribbean Studies Tinker Fellow, Global Public Health Research Award Recipient, Outstanding Commitment to Public Health Practice

Projects: Mosquito landing behavior in northern Ecuador, Infection prevention in Grenada's Homes for the Aging, Key informant perspectives on long-COVID in San Antonio, Texas

BSc, International Health | Minors in Biology & Spanish

Bethel University, Mishawaka, Indiana

Awards: Scholar Athlete in Track & Field, Outstanding Major in International Health

Projects: Narrative review of zoonotic malaria in South East Asia, Segregation distortion in *Drosophila melanogaster*

RESEARCH EXPERIENCE

Graduate Research & Teaching Assistant

September 2023 – Present

University of Florida Department of Geography, Gainesville, Florida

- Conducted research relating to mosquito ecology and zoonotic disease using machine learning and traditional regression approaches
- Constructed and submitted proposals, manuscripts and conference presentations
- Led coursework on medical geography and served as a grader for interdisciplinary courses

Research Assistant II

April, 2023 – Present

University of Michigan Department of Epidemiology, Ann Arbor, Michigan

- Conducted data analysis (R, SAS) for multiple studies on mosquito behavior patterns in northern Ecuador
- Applied modeling techniques and epidemiological theory
- Presented findings at research meetings and drafted results for publication

Global Health Intern

May 2023 – August 2023

Eversight Vision, Ann Arbor, Michigan

- Conducted a meta analysis of global attitudes towards corneal donation
- Analyzed data using Microsoft Excel and R
- Drafted results for publication and presentation, coordinating authorship and submission

RESEARCH EXPERIENCE (CONT.)

Research Assistant I

September 2021 - April 2022

University of Michigan Department of Health Behavior, Ann Arbor, Michigan

- Processed data relating to a parent-focused behavioral intervention on childhood obesity
- Coded & processed qualitative data using SPSS & Dedoose
- Participated in IRB & HIPAA compliance and trainings

Science Laboratory Assistant

January 2020 - May 2021

Bethel University, Mishawaka, Indiana

- Conducted molecular genetics research on segregation distortion in *Drosophila melanogaster*
- Performed PCR, gel electrophoresis, plasmid transformation and shotgun cloning
- Assisted in routine laboratory management including inventory, culture preparation and fly husbandry

CLINICAL EXPERIENCE

Clinical Informatics Specialist

December 2020 - September 2021

Oak Street Health LaSalle Park, South Bend, Indiana

- Documented patient's medical history, medications, medical management & diagnoses
- Performed efficient & precise medical coding compliant with the Centre for Medicare's guidelines
- Lead daily team meetings presenting patients to provider and clinical team-members

Medical Registrar & COVID-19 Testing Attendant

December 2020 - May 2021

Beacon Health System, Granger & South Bend, Indiana

- Swabbed patients and performed RT-PCR assays on samples to assess for COVID-19
- Registered patients in EMRs & charted information
- Trained and supervised employees on proper procedures and EMR usage

Medical Scribe

Scribe America, Elkhart General Hospital, Elkhart, Indiana

April 2018 - May 2019

- Documented provider visits for emergency medicine physicians
- Incorporated knowledge of pharmaceuticals, medical terminology and pathophysiology
- Followed HIPPA guidelines and navigated complex power dynamics and interpersonal relationships

PUBLIC HEALTH EXPERIENCE

Epidemiology & Entomology Intern

Summer 2022

Research Center for Infectious and Vector Diseases (CIREV), Quito, Ecuador

- Collected mosquitoes for identification and molecular analysis using HLC & HDN methods
- Analyzed data from mosquito collections using R and SAS
- Crafted protocols and drafted manuscripts for publication
- Assisted in mosquito husbandry associated with a sterile insect release programme

Intercultural Intern

Fall 2019

Devon Oasis, Little India, Chicago, Illinois

- Provided social support and basic health/nutritional education to incoming refugee families
- Developed course materials for TESOL and health education
- Supervised homework tutoring sessions and assisted with college applications

PUBLIC HEALTH EXPERIENCE (CONT.)

Environmental & Vector Technician

Summer 2019

Elkhart County Environmental Health Department, Goshen, Indiana

- Assessed distribution of mosquitoes & ticks, alongside vector identification and control
 - Created guide for pesticide use and contraindications
 - Performed weekly surface-water quality analyses
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TEACHING EXPERIENCE

University of Florida Instructor of Record

- **GEO 3452 | Introduction to Medical Geography**
 - Four semesters, 30–75 students per semester
 - Managed and led online course, graded all course material, designed course content

University of Florida Teaching Assistant

- **IDS 2935 | The Next Pandemic**
 - Three semesters, 150–200 students per semester
 - Graded weekly assignments, quizzes, exams and presentations

University of Michigan Graduate Student Instructor

- **SOC 302 | Health & Society**
 - Two semesters, 75 students per semester
 - Lectured on supplementary information, led discussion sections and graded essays

Bethel University Teaching Assistant & Grader

- **BIOL 220 | Clinical Microbiology with Laboratory**
 - One semester, 2 20-student sections
 - Prepared media and cultures for procedures, supervised laboratory sessions and graded assignments
 - **BIOL 115 | Human Biology with Laboratory**
 - One semester, 3 25-student sections
 - Prepared materials and equipment for procedures, supervised laboratory sessions and graded assignments
 - **SPAN 161 – 162 | Elementary Spanish I & 2**
 - Four semesters, 4 20-student sections per semester
 - Graded weekly quizzes, semester exams and short writing assignments
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INVITED TALKS, TRAININGS & WORKSHOPS

- **Genomic Surveillance and Epidemiological Models for Outbreak Response Workshop** | May 2025, Emerging Pathogens Institute, University of Florida, Gainesville, Florida
 - **Global Health Epidemiology Panel** | EPID 664 – Field Methods in Global Health Epidemiology, January 2023, Department of Epidemiology, University of Michigan, Ann Arbor, Michigan
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SCIENTIFIC PRESENTATIONS

SCIENTIFIC PRESENTATIONS (CONT.)

- **Pshea-Smith IA**, Okech B, Boncy J, Existe A, Metrailer M, Matulis GA, Blackburn JK, von Fricken ME. Mosquito biodiversity in a pathogen endemic setting in Haiti.
 - Poster presentation
 - *Emerging Pathogens Institute Research Day*
 - Gainesville, Florida; 2025
- **Pshea-Smith IA**, Okech B, Sutherland I, Dunford J, So J, Koehler J, Boncy J, Matulis G, Ponciano JM, Blackburn JK, von Fricken ME. Mosquitoes & Haiti: Modelling mosquito distribution and examining mosquito diversity under current and future climate scenarios.
 - Oral presentation
 - *Annual meeting of the American Association of Geographers*
 - Detroit, Michigan; 2025
- **Pshea-Smith IA**, Werner E, Dunn M, Bashshur R. Geographic trends of keratitis in Florida and its association with social vulnerability.
 - Oral presentation
 - *Florida Society of Geographers Annual Meeting*
 - Gainesville, Florida; 2025
- **Pshea-Smith IA**, Okech B, Sutherland I, Dunford J, So J, Koehler J, Boncy J, Matulis G, Ponciano JM, Blackburn JK, von Fricken ME. Estimating spatial distributions of *Aedes aegypti*, *Aedes albopictus* and *Culex quinquefasciatus* in Haiti using machine learning.
 - Poster presentation
 - *Annual meeting of the American Society of Tropical Medicine and Hygiene*
 - New Orleans, Louisiana; 2024
- **Pshea-Smith IA**, Okech B, Sutherland I, Dunford J, So J, Koehler J, Boncy J, Matulis G, Ponciano JM, Blackburn JK, von Fricken ME. Modelling and predicting counts and environmental correlates of *Aedes aegypti*, *Aedes albopictus* and *Culex quinquefasciatus* in Haiti.
 - Oral presentation
 - *International Medical Geography Symposium*
 - Atlanta, Georgia; 2024
- **Pshea-Smith IA**, Okech B, Sutherland I, Dunford J, So J, Blackburn JK, von Fricken ME. Spatiotemporal Patterns of Three Mosquito Species in Haiti, 2018–2019.
 - Poster presentation
 - *Emerging Pathogens Institute Research Day 2024*
 - Gainesville, Florida; 2024
- **Pshea-Smith IA**, Ponce P, Cevallos V, Carrazco A, Morrison AC, Coloma J, Eisenberg JNS. Determinants of *Aedes aegypti* & *Culex* Species Landing Rates in Northern Esmeraldas Province, Ecuador: A Human Landing Catch Study, June 2021 – July 2022.
 - Poster presentation
 - *Annual meeting of the American Society of Tropical Medicine and Hygiene*
 - Chicago, Illinois; 2023

SCIENTIFIC PUBLICATIONS

- **Pshea-Smith IA**, Ash KD, Werner E, Dunn, M, Bashshur R. The Geography of Keratitis in Florida and its Correlation with Social Vulnerability
 - **In preparation**
- **Pshea-Smith IA**, Bissainte D, Ash KD. Climate Change, Colonisation, Conflict & Corruption – A vulnerabilising assemblage in the context of infectious disease in Haiti
 - **In preparation**

SCIENTIFIC PUBLICATIONS (CONT.)

- **Pshea-Smith IA**, Andritsch S, Metrailer MC, Kotorashvili A, Kotaria N, Golubiana G, Kirkitadze G, Chunashvili T, Shubashishvili A, Di Paola N, Kugelman J, Hulseberg C, Walker B, Musich T, Reinbold-Wasson D, Blackburn JK, von Fricken ME. Tick ecology and community composition in the Republic of Georgia.
 - **In preparation**
- **Pshea-Smith IA**, Matulis GA, Metrailer MC, Okech B, So J, Boncy J, Sutherland I, Hamilton T, Dunford J, Blanton J, Existe A, Koehler JW, Blackburn JK, von Fricken ME. Mosquito community ecology in a pathogen endemic setting in Haiti.
 - **In preparation**
- Matulis GA, Smith HP, Hall G, So J, Hamilton T, Katich RS, Delp KL, Douglas CE, Williams J, Kumar R, **Pshea-Smith IA**, Okech B, Blanton J, Ricks K, Stefan CP, Existe A, Kugelman JR, Sutherland I, Dunford J, Boncy J, von Fricken ME, Koehler JW. Characterization of arbovirus infections in patients within Haiti from screening discarded malaria rapid diagnostic test cassettes.
 - **Under review, PLoS NTD**
- Motes J, Wilson B, **Pshea-Smith IA**, Matulis GA, Bird JT, So J, Boncy J, Sutherland IW, Hamilton T, Dunford J, Scime S, Tarigopula N, Minard-Smith A, Existe A, Koehler JW, Okech BA, von Fricken ME, Blanton J. Molecular detection of insecticide resistance markers in *Aedes aegypti* (Dipter: Culicidae) populations from Haiti.
 - **Under review, Journal of Medical Entomology**
- Bashshur R, Werner E, **Pshea-Smith IA**, Dunn, M. Prevalence and geographic distribution of keratitis in the United States and associated factors.
 - **Under review, Ophthalmic Epidemiology**
- **Pshea-Smith IA**, Ponce P, Cevallos V, Carrazco A, Morrison AC, Coloma J, Eisenberg JNS. Landing patterns of *Aedes aegypti* & *Culex quinquefasciatus* in northern Esmeraldas province, Ecuador: Human Landing Catch Study June 2021 – July 2022.
 - **Under review, PLoS NTD**
- **Pshea-Smith IA**, Okech B, Sutherland I, Dunford J, So J, Koehler J, Boncy J, Matulis G, Ponciano JM, Blackburn JK, von Fricken ME. Modeling counts and environmental correlates of *Aedes aegypti*, *Aedes albopictus* and *Culex quinquefasciatus* in Haiti.
 - **Accepted, Journal of the American Society of Tropical Medicine and Hygiene, October, 2025**
- **Pshea-Smith IA**, Bashshur M, Itani W, Mofrad ZN, Stout E, Bashshur R. Perceptions on Corneal and Eye Donation: Implications for Corneal Donor Programs. Eye Banking and Corneal Transplantation. 2024 Sep 1;3(3):e0029.

PROFESSIONAL REPORTS & DOCUMENTS

- **Pshea-Smith IA***, Gardner K*, Harrison T*, Tretyakova S*. **Dementia Management and Infectious Disease Prevention in Grenada's Homes for the Aging**. 2023. Internal report for Grenada's Ministry of Social & Community Development, Housing and Gender Affairs. *All four authors contributed equally to this report.
- **Pshea-Smith IA***, Vyas J*, Fry J*. **Long COVID & Health Information in Bexar County**. 2023. Internal report for the South-Central Advanced Health Education Center in San Antonio, Texas. *All three authors contributed equally to this report.

PROFESSIONAL REPORTS & DOCUMENTS (CONT.)

- Pshea-Smith IA*, Tretyakova S*, Grandinetti K*, Powers K*, Tanksley A*. **Grenada Red Cross Volunteering Policy.** 2022. Internal use document for the Grenada Red Cross Society. *All five authors contributed equally to this report.
 - Pshea-Smith IA. **Elkhart County Pesticide Guide.** 2021. Internal use document for the Elkhart County Environmental Health Department.
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PROFESSIONAL MEMBERSHIPS

- 2025 – Present | Florida Society of Geographers
2024 – Present | American Association of Geographers
2024 – Present | Society of Vector Ecology
2021 – Present | American Society of Tropical Medicine and Hygiene
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FELLOWSHIPS & AWARDS

- 2025 | **College of Liberal Arts and Sciences Travel Award** – University of Florida
2025 | **Doctoral Student Poster Presentation Winner** – Emerging Pathogens Research Day
2025 | **Distinguished Teaching Award as a Graduate Student** – University of Florida
2025 | **Evan Coe Award for Excellence in Medical Geography** – University of Florida
2025 | **Student Oral Presentation Winner** – Ann. Meeting of the Florida Society of Geographers
2024 | **Student Paper Presentation Winner** – International Medical Geography Symposium
2024 | **Evan Coe Medical Geography Travel Award** – University of Florida
2023 | **Verena Lighthouse Scholar** – NSF Biology Integration Institute
2023 | **Outstanding Commitment to Public Health Practice** – University of Michigan PHAST
2022 | **Global Public Health Research Award** – University of Michigan
2022 | **Latin American and Caribbean Studies Tinker Fellow** – University of Michigan
2020 | **Outstanding Major in International Health** – Bethel University
2017-2020 | **Scholar Athlete**, Track & Field – Bethel University
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TECHNICAL SKILLS

- Data Analysis : R, SAS, ArcGIS Pro
- Microbiology & molecular biology : PCR,
- electrophoresis, aseptic & sterile technique
- Mosquito identification, husbandry for SIT
- and environmental control
- Survey development and deployment, semi-structured and focus group interviewing

PROFESSIONAL SKILLS

- Cultural competency & sensitivity
- Pedagogy in interdisciplinary fields, lesson plan development and discussion facilitation
- Professional Spanish proficiency; beginner
- French proficiency
- Budgeting and project management

INTERESTS

Academic

- Vector ecology
- One Health
- Public health practice
- Spatial analysis + visualization

Personal

- Long distance running
- Kayaking
- Science fiction & fantasy books