

## **DIEGO F. CUADROS**

Digital Epidemiology Laboratory  
Digital Futures  
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### **EDUCATION**

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2011	University of Kentucky, Lexington, KY, USA Ph.D. Biology
2004	Universidad Nacional de Colombia, Bogotá, Colombia B.S. Biology

### **RESEARCH INTEREST**

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- ♦ Digital epidemiology
- ♦ Mathematical modeling of diseases
- ♦ Disease ecology
- ♦ GIS applications in epidemiology
- ♦ HIV epidemiology

### **WORK EXPERIENCE**

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2022 - present	<b>Associate Professor</b> <b><i>Department of Geography and Geographic Information Science, University of Cincinnati</i></b> <u>Projects:</u> <ul style="list-style-type: none"><li>♦ Digital epidemiology</li><li>♦ Mathematical modeling of diseases</li><li>♦ Spatial epidemiology</li><li>♦ HIV research</li></ul>
2016 - 2022	<b>Assistant Professor</b> <b><i>Department of Geography and Geographic Information Science, University of Cincinnati</i></b> <u>Projects:</u>

- ♦ Digital epidemiology
- ♦ Mathematical modeling of diseases
- ♦ Spatial epidemiology
- ♦ HIV research

2016

**Research Fellow**  
***Africa Health Research Institute***

Projects:

- ♦ Modeling causal pathways of HIV infection by quantifying community-, household- and individual-level determinants of HIV acquisition and transmission
- ♦ Modeling spatial and genetic epidemiological data to inform targeted HIV intervention strategies

2012-2015

**Postdoctoral Research Associate**  
***Weill Cornell Medicine - Qatar***

Projects:

- ♦ Spatial epidemiology of HIV in sub-Saharan Africa
- ♦ Assessment of the major modes of hepatitis C virus transmission in the Middle East and North Africa region

2014 - 2015

**Research Consultant**  
***The World Bank***

Projects:

- ♦ Comparative analysis of HIV allocative efficiency tools
- ♦ HIV allocative efficiency analysis in the Eastern Europe and Central Asia region
- ♦ HIV allocative efficiency analysis in the Latin America and Caribbean region

2011

**Research Consultant**  
***Weill Cornell Medicine - Qatar***

Projects:

- ♦ Use of computer simulations to design and interpret HIV clinical trials

2007 - 2011

**Research Assistant**  
***University of Kentucky***

Projects:

- ♦ Effect of HIV testing on the HIV incidence: Insights from a mathematical model

2004 - 2007

**Research Assistant**  
***Colombian Corporation of Agricultural Research***

Projects:

- ♦ Spatio-temporal dynamics of insects associated to agroecosystems
- ♦ Evaluation of behavioral responses from insects to chemical signals from different plant species

## GRANTS

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<b>Active</b> 2023-2027	The Changing Face of the HIV Epidemic in Hyperendemic Rural KwaZulu Natal, South Africa Total amount: \$388,000 Source: National Institute of Health Role: co-Investigator
<b>Active</b> 2023-2027	Rapid test for recent infection (RTRI) for precision public health in Sub-Saharan Africa: Next generation strategies amid changing HIV epidemiology Total amount: \$269,923 Source: National Institute of Health Role: co-Investigator
<b>Active</b> 2021-2025	Can mental health services break the cycle perpetuating HIV hotspots in sub-Saharan Africa Source: National Institute of Health Total amount: \$200,000 Role: co-Investigator
<b>Approved</b> 2025 -2027	Evaluation d'un transport par drone pour améliorer la cascade de prise en charge des nouveau-nés et enfants exposés au VIH en Guinée Source: ANRS - Emerging Infectious Diseases Role: Co-Investigator
<b>Submitted</b> 2025-2030	Strengthening Advanced inFectious disease Epidemiology (SAFE) Source: National Institute of Health Role: Co-investigator
<b>Completed</b> 2020-2023	Multilevel and Spatial Determinants of Multimorbidity and Optimal Co-Care Delivery Model in South Africa Source: National Institute of Health Total amount: \$68,000 Role: co-Investigator
<b>Completed</b> 2020-2021	Genomics and geospatial analyses of childhood asthma racial disparities Source: Cincinnati Children's Hospital Total amount: \$16,500 Role: co-Principal Investigator
<b>Completed</b>	

2013 - 2016	<p>Critical assessment of the drivers of the hepatitis C virus epidemic in Egypt: A quantitative approach</p> <p>Source: Junior Scientist Research Experience Program, Qatar National Research Fund</p> <p>Total amount: \$298,820</p> <p>Role: Principal Investigator</p>
<b>Completed</b> 2018	<p>Naloxone access and impact evaluation</p> <p>Source: Ohio Department of Health</p> <p>Total amount: \$74,957</p> <p>Role: co-Investigator</p>

## PUBLICATIONS

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### *Submitted Manuscripts*

1. Gutiérrez JD, Quintero-García WL, Xiao Y, Miller FD, **Cuadros DF**. Anthropogenic Landscapes and Vector-Borne Disease Dynamics: Unveiling the Complex Interplay between Human Footprint and Disease Transmission in Colombia
2. Perez-Alvarez R, **Cuadros DF**, Borrero-Echeverry F, Soto-Suarez M; Suarez-Estrada M, Clavijo AP, Rincon DF. Decoding the adoption of sustainable agricultural practices in heterogeneous socio-economic landscapes.
3. Yamamoto N, Citron DT, Mwalili SM; Gathungu DK, **Cuadros DF**, Bershteyn A. Uncovering the Impact of Randomness in HIV Hotspot Formation: A Mathematical Modeling Study.
4. Mathenjwa T, Okango E, Tram KH, Inghels M, **Cuadros DF**, Kim HY, Walsh F, Barnighausen T, Dobra A, Tanser F. Leveraging smartphone mobility data to understand HIV risk among rural South African youth: opportunities and challenges from the Sesikhona study.
5. Musuka G, Dzinamarira T, **Cuadros DF**, Chingombe I, Herrera H, Mbunge E, Murewanhema G, Moyo E, Makota R, Munyaradzi Mapingure M. Factors associated with malnutrition among children under 5 in Zimbabwe: secondary analysis of Multiple Indicators Cluster Survey (MICS 2019) data.

### *In press*

1. Escobar, S, Machinon N, Ambade, P, Hoffman, Z, **Cuadros, DF**. The Evolving Landscape of Substance Use Disorder Mortality in the United States: A Spatiotemporal Analysis of Emerging Hotspots and Vulnerable Populations (2005-2020).
2. **Cuadros DF**, Kiragga A, Tu L, Awad S, Bwanika J, Musuka G. Digital Transformation and Health Equity in Africa: Unpacking Social and Digital Determinants.

3. Chowdhury MT, Bershteyn A, Milali M, Citron DT, Nyimbili S, Musuka G, **Cuadros DF**. Progress Towards UNAIDS 95-95-95 Targets in Zimbabwe: Sociodemographic Constraints and Geospatial Heterogeneity

### ***Published Manuscripts***

1. Awad SF, **Cuadros DF**. (2025) Generic Patterns in HIV Transmission Dynamics: Insights from a Phenomenological Risk-Stratified Modelling Approach. *BioMedInformatics*
2. Musuka G, **Cuadros DF**, Mukandavire Z, Miller FD, Dzinamarira T. (2025). Immunization Equity for Children with Disabilities in Low- and Middle-Income Countries: A Scoping Review of Barriers, Strategies, and Lessons Learned. *Vaccines*
3. **Cuadros DF**, Huang Q, Musuka G, Dzinamarira T, Moyo BK, Mpofu A, Makoni T, F. Miller D, Bershteyn A. (2024) Moving Beyond HIV Prevalence Hotspots: Shifting the Focus Towards Geospatial Hotspots of UNAIDS 95-95-95 Targets in Sub-Saharan Africa. *The Lancet HIV*
4. **Cuadros DF**, Devi C, Singh U, Olivier S, Castle A, Moosa Y, Edwards JA, Kim HY, Siedner M, Wong EB, Tanser F. (2024) Convergence of HIV and non-communicable disease epidemics: Geospatial mapping of the unmet health needs in a HIV Hyperendemic South African community. *BMJ Global Health*
5. **Cuadros DF**, Huang Q, Mathenjwa T, Gareta D, Devi C, Musuka G. (2024) Unlocking the Potential of Telehealth in Africa for HIV: Opportunities, Challenges, and Pathways to Equitable Healthcare Delivery. *Frontiers Digital Health*
6. **Cuadros DF**, Chen X, Li J, Omori, R, Musuka G. (2024) Advancing Public Health Surveillance: Integrating Modeling and GIS in the Wastewater-Based Epidemiology of Viruses, a Narrative Review. *Pathogens*
7. Kemp S, Kamelian K, **Cuadros DF**, Cheng M, Okango E, Hanekom W, Ndung'u T, Pillay D, Bonsall D, Wong E, Gupta R. (2024) HIV transmission dynamics and population-wide drug resistance in rural South Africa. *Nature Communications*
8. Utpatel C, Zavaleta M, Rojas-Bolivar D, Mulhbach A, Picoy J, Portugal W, Esteve-Solé A, Alsina L, Miotto P, Bartholomeu D, Sanchez J, **Cuadros DF**, Alarcon J, Niemann S, Huaman M. (2024) Prison as a Driver of Recent Transmissions of Multidrug-Resistant Tuberculosis in Callao, Peru. *The Lancet Regional Health Americas*
9. Mapingure M, Chingombe I, Dzinamarira T, **Cuadros DF**, Murewanhema G, Moyo B, Samba C, Mpofu A, Mugurungi O, Herrera H, & Musuka G. (2024). Condomless anal intercourse among HIV-positive and HIV-negative men who have sex with men in Zimbabwe. *Southern African Journal of HIV Medicine*
10. Dzinamarira T, Moyo E, Murewanhema G, **Cuadros DF**, Kouamou V, Mpofu A, Musuka G. (2024) Strengthening and Enhancing National Antiretroviral Drug Resistance Surveillance in Zimbabwe -A Country That Has Reached UNAIDS 95-95-95 amongst adults. *Frontiers in Public Health*

11. Dzinamarira, T Mapingure M, Chingombe I, **Cuadros DF**, Eghtessadi R, Mutenherwa F, Herrera H, Madziva R, Mukwenha S, Murewanhema G, Musuka G. (2024). Using machine learning models to plan HIV services: emerging opportunities in design, implementation, and evaluation. *South African Medical Journal*
12. Musuka G, Dzinamarira T, Chingombe I, Herrera H, **Cuadros DF**, Mbunge E, Murewanhema G, Moyo E, Makota R, Munyaradzi Mapingure M. (2024). HIV status and contraceptive use in Zimbabwe among sexually active adolescent girls and women: Secondary analysis of Zimbabwe Demographic Health survey data. *South African Medical Journal*
13. Musuka G, Dzinamarira T, Chingombe I, Mbunge M, Herrera H, Dzinamarira T, **Cuadros DF**, Mbunge E, Murewanhema G, Moyo E, Makota R, Munyaradzi Mapingure M. (2024). Rural-urban disparities and socioeconomic determinants of caesarian delivery rates in Zimbabwe: Evidence from 2019 National Multiple Indicator Cluster Survey. *South African Medical Journal*
14. Tafadzwa D, Moyo E, **Cuadros DF**, Herrera H, Mano O, Munyionho M, Mhango M, Musuka G. (2024). Occupational Health Risks and HIV Prevention Programming for Informal Extractive Miners in Sub-Saharan Africa: A Narrative Review of Interventions, Challenges, and Lessons Learned. *Merits*
15. **Cuadros DF**, Moreno CM, Miller FD, Omori R, MacKinnon NJ. (2023) Assessing access to digital services in healthcare-underserved communities in the United States: A cross-sectional study. *Mayo Clinic Proceedings: Digital Health*
16. **Cuadros DF**, Gutierrez JD, Moreno CM, Escobar S, Miller FD, Musuka G, Omori R, Coule P, MacKinnon NJ. (2023) Impact of healthcare capacity disparities on the COVID-19 vaccination coverage in the United States: A cross-sectional study. *The Lancet Regional Health Americas*
17. **Cuadros DF**, Moreno M, Tomita A, Singh U, Olivier S, Castle A, Moosa Y, Edwards JA, Kim HY, Siedner M, Wong EB, Tanser F. (2023) Geospatial assessment of the convergence of communicable and non-communicable diseases in South Africa. *Journal of Multimorbidity and Comorbidity*
18. **Cuadros DF**, Chowdhury T, Milali M, Citron D, Nyimbili S, Vlahakis N, Savory T, Mulenga LB, Sivile S, Zyambo K, Bershteyn A. (2023). Geospatial Patterns of Progress towards UNAIDS" 95-95-95" Targets and Community Vulnerability in Zambia. *BMJ Global Health*
19. **Cuadros DF**, Branscum A, Moreno CM, MacKinnon N. (2023) Narrative minireview of the spatial epidemiology of substance use disorder in the United States: Who is at risk and where? *World Journal of Clinical Cases*
20. Singh U, Olivier S, **Cuadros DF**, Castle A, Moosa Y, Edwards JA, Kim HY, Siedner M, Tanser F, Wong EB. (2023) Quantifying met and unmet health needs for HIV, hypertension and diabetes in rural KwaZulu-Natal, South Africa. *The Lancet Global Health*
21. Li J, Changjoo K, **Cuadros DF**, Tao Z, Jia P. (2023) Changes of Grocery Shopping Frequencies and Associations with Food Deserts during the COVID-19 Pandemic in the United States. *Journal Of Urban Health*

22. Mngadi L, **Cuadros DF**, Tanser T, Burns JK, Slotow R, Tomita A. (2023) Water, sanitation and depression in rural communities: evidence from nationally representative study data in South Africa. *Psychology, Health & Medicine*
23. Mapingure M, Dzinamarira T, Mukandavire Z, Chingombe I, **Cuadros DF**, Eghtessadi R, Mutenherwa F, Herrera H, Madziva R, Mukwenha S, Murewanhema G, Musuka G. (2023) Understanding the role of intimate partner violence on HIV transmission in Zimbabwe: Secondary data analysis of data from the Zimbabwe demographic survey 2015-2016. *Health Promotion Perspectives*
24. Musuka G, Moyo E, **Cuadros DF**, Herrera H, Dzinamarira T. (2023) Redefining HIV Care: A Path Towards Sustainability Post-UNAIDS 95-95-95 Targets. *Frontiers in Public Health*
25. Roberts A, **Cuadros DF**, Vandormael A, Gareta D; Barnabas R, Herbst K, Frank T, Akullian A. (2022) Predicting the risk of HIV-1 acquisition in rural South Africa using geospatial data. *Clinical Infectious Diseases*
26. Asare K, Tomita A, Garrett N, Slotow R, Burns JK, Tanser F, **Cuadros DF**. (2022) Depression onset and its association with community HIV prevalence: a geospatial and panel analyses of nationally representative South African data, 2015-2017. *Journal of Affective Disorders Reports*
27. Princess N, **Cuadros DF**, Tanser T, Slotow R, Burns JK, Tomita A. (2022) Spatial clustering of codeine misuse and its association with depression: a geospatial analysis of nationally representative South African data. *Journal of Affective Disorders Reports*
28. Kim H-Y, **Cuadros DF**, Wilkinson E, Junqueira DM, Oliveira T, Tanser F. (2022) Spatial network configuration emerging from the sexual partnership formation in a HIV hyper-endemic rural community in South Africa. *Plos Global Public Health*
29. Tomita A, **Cuadros DF**, Slotow R. (2022) Syndemics and a renewed path for addressing intimate partner violence among women in South Africa's aging HIV endemic era: geospatial analysis of nationally representative data, 2017. *Scientific Reports*
30. Dzinamarira T, Murewanhema G, **Cuadros DF**, Iradukunda PG, Madziva R, Herrera H, Tungwarara N, Chitungo I, Musuka G. (2022) Predicting HIV status among men who have sex with men using recurrent neural networks and machine learning techniques. *Tropical Medicine and Infectious Disease*
31. Dzinamarira T, Murewanhema G, Iradukunda PG, Madziva R, Herrera H, **Cuadros DF**, Tungwarara N, Chitungo I, Musuka G. (2022) Utilization of SARS-CoV-2 Wastewater Surveillance in Africa—A Rapid Review. *International Journal of Environmental Research and Public Health*
32. Musuka G, Mukandavire Z, Chingombe I, **Cuadros DF**, Murewanhema G, Mutenherwa F, Dzinamarira T, Eghtessadi R, Mapingure M. (2022) HIV status, knowledge and prevention of cervical cancer amongst adolescent girls and women: Secondary analysis of Zimbabwe Demographic Health survey. *Pan African Medical Journal*

33. Murewanhema G, Chitungo I, Ngara N, Nkambule JN, Madziva R, Herrera H, Mukwenha M, **Cuadros DF**, Patrick Iradukunda GP, Mashora M, Tungwarara T, RwibasiraNR, Musuka G. (2022) Risk of mortality in HIV-infected COVID-19 patients: A systematic review and meta-analysis. *Journal of Infection and Public Health*.
34. **Cuadros DF**, Moreno CM, Musuka G, Miller FD, Coule P, MacKinnon NJ. (2022) Association between vaccination coverage disparity and the dynamics of the COVID-19 Delta and Omicron waves in the US. *Frontiers in Medicine*
35. **Cuadros DF**, de Oliveira T, Gräf T, Junqueira DM, Wilkinson E, Lemey P, Bärnighausen T, Tanser F. (2022) Role of high-risk communities in the spread of the HIV epidemic in rural South Africa. *PLOS Global Public Health*
36. **Cuadros DF**, Miller FD, Awad S, Coule P, MacKinnon NJ. (2022) Analysis of Vaccination Rates and New COVID-19 Infections by US County, July-August 2021. *JAMA Open Network*
37. **Cuadros DF**, Li J, Musuka G, Awad S. (2021) Spatial epidemiology of diabetes: Methods and insights. *World Journal of Diabetes*
38. **Cuadros DF**, Branscum AJ, Mukandavire Z, Miller F. D, MacKinnon NJ. (2021) Spatiotemporal dynamics of the COVID-19 epidemic in rural and urban areas in the United States. *Annals of Epidemiology*
39. Kim H, Musuka GN, Mukandavire Z, Branscum AJ, **Cuadros DF**. (2021) When distance matters: Mapping HIV health care underserved communities in sub-Saharan Africa. *PLOS Global Public Health*
40. Awad S, Musuka G, Mukandavire Z, Froass D, MacKinnon NJ, **Cuadros DF**. (2021) Implementation of a vaccination program based on epidemic geospatial attributes: COVID-19 pandemic in Ohio as a case study and proof of concept. *Vaccines*
41. Wilkinson E, Giovanetti M, Tegally H, San JE, Lessels R, **Cuadros DF**, Mulder N, et al. (2021). A year of genomic surveillance reveals how the SARS-CoV-2 pandemic unfolded in Africa. *Science*
42. Musuka G, Dzinamarira T, **Cuadros DF**, Chingombe I, Murewanhema G, Munyaradzi Mapingure M. (2021) Diarrhoea in children under 5 years: Insights from the Zimbabwe Demographic Health survey (2015-16). *Food Science & Nutrition*
43. Dzinamarira T, Mukwenha S, Mukandavire M, **Cuadros DF**, Murewanhema G, Roda Madziva M, Musuka G. (2021) Insights from Zimbabwe's SARS-CoV-2 genomic epidemiology surveillance. *The Lancet Global Health*
44. Murewanhema G, Mukwenha S, Dzinamarira T,\*, Mukandavire Z, **Cuadros DF**, Madziva R, Chingombe I, Mapingure M, Herrera H, Musuka G (2021) Optimising COVID-19 Vaccination Policy to Mitigate SARS-CoV-2 Transmission within Schools in Zimbabwe. *Vaccines*
45. Dzinamarira T, Mukwenha S, Mukandavire M, **Cuadros DF**, Murewanhema G, Roda Madziva M, Musuka G. (2021) Coronavirus Disease 2019 (COVID-19) Response in Zimbabwe: A Call for Urgent Scale-up of Testing to meet National Capacity. *Clinical Infectious Diseases*

46. Tomita A, Layna GH, Rohr JK, Kim H-J, Moodley Y, Mpolya E, Mogeni P, **Cuadros DF**, Killewo J, Baernighausen T, Tanser F. (2021) Patterns of multimorbidity and hospitalization among older adults in Dar es Salaam, Tanzania: a population-based analysis. *Age and Ageing Journal*
47. Musuka G, Dzinamarira T, **Cuadros DF**, Chingombe I, Murewanhema G, Munyaradzi Mapingure M. (2021) Mothers' HIV status and the nutritional status of their children: insights from secondary analysis of the Zimbabwe Demographic Health survey data (2015-2016). *Food Science & Nutrition*
48. Wong E, Koole O, Olivier S, Gunda R, **Cuadros DF**, Pillay D. (2021) Convergence of infectious and non-communicable diseases in South Africa. *Lancet Global Health*
49. Correa-Agudelo E, Kim HY, Musuka G, Mukandavire Z, Miller FDW, Tanser F, **Cuadros DF**. (2021) The epidemiological landscape of anemia in women in sub-Saharan Africa. *Scientific Reports*
50. Hernandez A, Lan M, MacKinnon N, Branscum AJ, **Cuadros DF**. (2021) "Know your epidemic, know your response": Epidemiological assessment of the substance abuse disorder crisis in the United States. *Plos ONE*
51. Kim H, Tanser F, Tomita A, Vandormael A, **Cuadros DF**. (2021) Beyond HIV prevalence: Identifying people living with HIV within underserved areas in South Africa. *BMJ Global Health*
52. Correa-Agudelo E, Mersha TB, Hernández A, Branscum AJ, MacKinnon NJ, **Cuadros DF**. (2021) Identification of Vulnerable Populations and Areas at Higher Risk of COVID-19 Related Mortality During the Early Stage of the Epidemic in the U.S. *International Journal of Environmental Research and Public Health*
53. Correa-Agudelo E, Kim HY, Musuka GN, Mukandavire Z, Akullian A, **Cuadros DF**. (2021) Associated health and social determinants of mobile populations across HIV epidemic gradients in Southern Africa. *Journal of Migration and Health*
54. Mapingure M, Mukandavire Z, Chingombe I, **Cuadros DF**, Mutenherwa F, Mugurungi OM, Musuka GN. (2021) Understanding HIV and associated risk factors among religious groups in Zimbabwe. *BMC Public Health*
55. Akullian A, Vandormael A, Miller J, Bershteyn A, Wenger E, **Cuadros DF**, Tanser F. (2021) Large age-shifts in HIV-1 incidence patterns in KwaZulu-Natal, South Africa reveal an urgent need to expand demographic targets for HIV prevention programs. *PNAS*
56. **Cuadros DF**, Xiao Y, Mukandavire Z, Correa-Agudelo E, Hernández A, Kim H, MacKinnon NJ. (2020) Spatiotemporal transmission dynamics of the COVID-19 pandemic and its impact on critical healthcare capacity. *Health & Place*
57. Dzinamarira T, Mukwenha S, BscHons RE, **Cuadros DF**, Mhlanga G, Musuka G. (2020) COVID-19 response in Zimbabwe: A Call for Urgent Scale-up of Testing to meet National Testing Capacity. *Clinical Infectious Diseases*
58. Vandormael A, **Cuadros DF**, Dobra A, Bärnighausen T, Tanser F. (2020) HIV incidence declines in a rural South African population: a G-imputation approach for inference. *BMC Public Health*

59. Eghtessadi R, Mukandavire Z, Mutenherwa F, **Cuadros DF**, Muzuka G. (2020) Safeguarding gains in the Sexual and Reproductive Health and HIV Response: The role of African Civil Society amidst COVID19. *International Journal of Infectious Diseases*
60. Tomita A, **Cuadros DF**, Mabhaudhi T, Sartorius B, Ncama B, Tanser F, Modi A, Slotow R, Burns JK. (2020) Spatial clustering of food insecurity and its impact on depression: A panel and geospatial analysis of nationally representative South African data, 2008-2015. *Scientific Reports*
61. Mukandavire Z, Malunguza NJ, **Cuadros DF**, Shiri T, Musuka G, Nyabadza F. (2020) Quantifying early COVID-19 outbreak transmission in South Africa and exploring vaccine efficacy scenarios. *Plos ONE*
62. Tomita A, **Cuadros DF**, Burns JK, Tanser F, Slotow R. (2020) Distance to waste site and its impact on health: A panel and geospatial analysis of nationally representative South African data, 2008-2015. *The Lancet Planetary Health*
63. Kim H, Miller F. D, Tanser F, Mogeni P, Ouyang Q, **Cuadros DF**. (2020) Space-time analysis of insecticide-treated net use in relation to socio-economic gradients in sub-Saharan Africa. *Malaria Journal*
64. Hernandez AM, Jia P, Kim HY, **Cuadros DF**. (2020) Geographic Variation and Risk Factors of the Diabetes Epidemic in India: Findings from a National Representative Survey in 2015-6. *JAMA Network Open*
65. Mukandavire Z, Manangazira P, Nyabadza F, **Cuadros DF**, Musuka G, Glenn J, Jr Morris. (2020) Stemming Cholera tides in Zimbabwe through mass vaccination. *International Journal of Infectious Diseases*
66. Mogeni P, Vandormael A, **Cuadros DF**, Appleton C, Tanser F. (2020) Effects of community piped water coverage on re-infection with urogenital schistosomiasis among primary school children in rural KwaZulu-Natal, South Africa. *eLife* 9, e54012
67. Vandormael A, **Cuadros DF**, Kim HY, Bärnighausen T, Tanser F. (2020) The state of the HIV epidemic in rural KwaZulu-Natal, South Africa: novel application of epidemic metrics to assess trajectories and highlight areas requiring intervention. *International Journal of Epidemiology*
68. Kim HY, Harling G, Vandormael A, Tomita A, **Cuadros DF**, Bärnighausen T, Tanser F. (2020) HIV serosorting among heterosexual couples in rural KwaZulu-Natal, South Africa: a population-based analysis. *Journal of the International AIDS Society*
69. Hernandez AM, Li J, Mackinnon N, Hincapie A, **Cuadros DF**. (2020) Epidemiological and geospatial profile of the prescription opioid crisis in Ohio, United States. *Scientific Reports*
70. Vandormael A, Tanser F, **Cuadros DF**, Dobra A. (2019) Estimating trends in the incidence rate with interval censored data and time-dependent covariates. *Statistical Methods in Medical Research*
71. Kim H, Branscum AJ, Miller F. D, **Cuadros DF**. (2019) Geospatial assessment of the voluntary medical male circumcision programme implemented in Tanzania from 2011 to 2016. *BMJ Global Health*

72. Hernandez AM, Gutierrez JD, Xiao Y, Branscum AJ, **Cuadros DF**. (2019) Spatial epidemiology of cutaneous leishmaniasis in Colombia: Socio-economic and demographic factors associated with a growing epidemic. *Transactions of The Royal Society of Tropical Medicine and Hygiene* trz043
73. **Cuadros DF**, Li J, Mukandavire Z, Musuka GN, Branscum AJ, Sartorius Benn, Tanser F. (2019) Towards UNAIDS Fast-Track goals: Targeting priority geographic areas for HIV prevention and care in Zimbabwe. *AIDS* 33(2):305-3014
74. **Cuadros DF**, Tomita A, Vandormael A, Slotow R, Burns JK. Tanser F. (2019) Spatial structure of depression in South Africa: A longitudinal panel survey of a nationally representative sample of households. *Scientific Reports* 9:979
75. **Cuadros DF**, Branscum AJ, Mukandavire Z. (2018) Temporal stability of HIV prevalence in high burden areas regardless of declines in national HIV prevalence in Malawi and Zimbabwe. *AIDS* 32(10): 1381-1383
76. **Cuadros DF**, Sartorius B, Hall C, Akullian A, Bärnighausen T, Tanser F. (2018) Capturing the spatial variability of HIV epidemics in South Africa and Tanzania using routine healthcare facility data. *International Journal of Health Geographics*, 17(1), 27.
77. Meter-Rath G\*, McGillen JB\*, **Cuadros DF\***, Hallett TB, Bhatt S, Wabiri N, Tanser F, Rehle T. (2018) Targeting the right interventions to the right people and places: the role of geospatial analysis in HIV programme planning. (\***equal authorship**). *AIDS* 32(8): 957-963
78. Tanser F, Vandormael AM, **Cuadros DF**, Phillips A, de Oliveira T, Tomita A, Bärnighausen T, Pillay, D. (2017) Effect of population viral load on prospective HIV incidence in a hyper-endemic rural African community. *Science Translational Medicine* 9(420), eaam8012
79. Wang J, Jia P, **Cuadros DF**, Xu M, Wang X, Guo W, Portnov A, Bao Y, Chang Y, Song G, Chen N, Stein A. (2017) A remote sensing data based artificial neural network approach for predicting climate-sensitive infectious disease outbreaks: a case study of human brucellosis. *Remote Sensing* 9(10), 1018
80. Tomita A, Vandormael AM, **Cuadros DF**, Minin E, Heikinheimo V, Tanser F, Slotow R, Burns JK. (2017) Green environment and incident depression in South Africa: Geospatial evidence and sustainable development implications for mental health in resource-limited settings. *The Lancet Planetary Health* 1(4), e152-e162
81. Ismail SA\*, **Cuadros DF\***, Benova L. (2017) Hepatitis B infection in Egypt: a cross-sectional analysis of prevalence and risk factors for active infection from a nationwide survey. (\***equal authorship**). *Liver International* DOI: 10.1111/liv.13469
82. Tomita A, Vandormael AM, **Cuadros DF**, Slotow R, Tanser F, Burns JK. (2017) Proximity to health care clinic and depression risk in South Africa: Geospatial evidence from a population-based longitudinal study. *Social Psychiatry and Psychiatric Epidemiology* 52(8):1023–1030.

83. **Cuadros DF**, Li J, Branscum A, Akullian A, Peng J, Mziray E, Tanser F. (2017) Mapping the spatial variability of HIV infection in Sub-Saharan Africa: Effective information for localized HIV prevention and control. *Scientific Reports* 7: 9093
84. **Cuadros DF**, Hernandez A, Torres MF, Torres MF, Branscum AJ, Rincon DF. (2017) Vector transmission alone fails to explain the potato yellow vein virus epidemic among potato crops in Colombia. *Frontiers in Plant Science* DOI: 10.3389/fpls.2017.01654
85. **Cuadros DF**, Abu-Raddad LJ. (2016) Geographical Patterns of HIV Sero-discordancy in High HIV Prevalence Countries in Sub-Saharan Africa. *Int. J. Environ. Res. Public Health* 13(9): 865.
86. Hallett T, Anderson S, Asante C, Adobea B, Noah V, Bhatt S, Clara C, **Cuadros DF**, Dzangare J, Fecht D, Gething PW, Ghys P, Guwani J, Heard N, Kalipeni E, Kandala NB, Kim A, Kwao ID, Larmarange J, Manda S, Moise I, Montana L, Mwai D, Mwalili S, Shortridge A, Tanser F, Wanyeki I, Zulu L. (2016) Evaluation of geospatial methods to generate subnational HIV prevalence estimates for local level planning. *AIDS* 30(9):1467-1474.
87. Miller D, Hassani S, Elzabany M, **Cuadros DF**. (2015) The epidemiology of hepatitis C virus exposure in Egypt: Opportunities for prevention and evaluation. *World Journal of Hepatology* 7(28): 2849–2858.
88. **Cuadros DF**, Miller D, Nagelkerke N, Abu-Raddad LJ. (2015) Association between HCV infection and diabetes type 2 in Egypt: Is it time to split up? *Annals of Epidemiology* 25(12): 918-923.
89. **Cuadros DF**, Branscum A, Miller D, Awad SF, Abu-Raddad LJ. (2015) Are geographical “cold spots” of male circumcision driving differential HIV dynamics in Tanzania? *Frontiers in Public Health* 3: 218.
90. **Cuadros DF**, Branscum A, Miller D, Abu-Raddad LJ. (2014) Spatial epidemiology of hepatitis C virus infection in Egypt: Analyses and implications *Hepatology* 60: 1150–1159.
91. **Cuadros DF**, Abu-Raddad LJ. (2014) Spatial variability in HIV prevalence declines in several countries in sub-Saharan Africa. *Health & Place* 28: 45-49.
92. **Cuadros DF**, Abu-Raddad LJ, Awad SF, García-Ramos G. (2014) Use of agent-based simulations to design and interpret HIV clinical trials. *Computers in Biology and Medicine* 50: 1-8.
93. Torres MF, **Cuadros DF**, Vaillancourt LJ. (2014) Evidence for a diffusible factor that induces susceptibility in the Colletotrichum-maize disease interaction. *Molecular Plant Pathology* 15(1): 80-93.
94. Mohamoud Y, **Cuadros DF**, Abu-Raddad LJ. (2013) Characterizing the Copts in Egypt: Demographic, socioeconomic and health indicators. *QScience Connect* 89 (11): 87.
95. **Cuadros DF**, Awad SF, Abu-Raddad LJ. (2013) Mapping HIV clustering: A strategy for identifying populations at high risk of HIV infection in sub-Saharan Africa. *International Journal of Health Geographics* 12:28.

96. **Cuadros DF**, Abu-Raddad LJ. (2012) From individuals to populations: Immunological and epidemiological significance of co-infection in the dynamics of HIV. *Journal of Clinical & Cellular Immunology* S7: 002.
97. **Cuadros DF**, Garcia-Ramos G. (2012) Variable effect of co-infection on the HIV infectivity: Within-host dynamics and epidemiological significance. *Theoretical Biology and Medical Modelling* 9: 9.
98. **Cuadros DF**, Branscum AJ, Crowley PH. (2012) Authors' response: HIV-malaria co-infection: effects of malaria on the prevalence of HIV in East sub-Saharan Africa. *International Journal of Epidemiology* 41(3):891-892.
99. **Cuadros DF**, Branscum AJ, Crowley PH. (2011) HIV-malaria co-infection: effects of malaria on the prevalence of HIV in East sub-Saharan Africa. *International Journal of Epidemiology* 40(4): 931-939.
100. **Cuadros DF**, Crowley PH, Augustine B, Stewart SL, Garcia-Ramos G. (2011) Effect of variable transmission rate on the dynamics of HIV in sub-Saharan Africa. *BMC Infectious Diseases* 11(1): 216.
101. **Cuadros DF**, Branscum AJ, Garcia-Ramos G. (2011) No evidence of association between HIV-1 and malaria in populations with low HIV-1 prevalence. *PLoS ONE* 6(8): e23458.

### ***Published Book Chapters***

1. **Cuadros DF**, Devi C, MacKinnon N. (2023) Using Spatial Epidemiology to Better Understand COVID in Ohio. In *"Ohio Under COVID"*.
2. Huang Q, **Cuadros DF**, Z Sun. (2023) Actionable Science in Environmental Health. In *"Actionable Science of Global Environment Change: From Big Data to Practical Research"*.
3. Dzinamarira T, Murewanhema G, **Cuadros DF**, Iradukunda PG, Madziva R, Herrera H, Tungwarara N, Chitungo I, Musuka G. (2022). Predicting HIV status among men who have sex with men using recurrent neural networks and machine learning techniques. In *"Artificial Intelligence Trends in Systems"*.
4. Grigoryan S, Kelly SL, Papoyan A, Hovhannisyan R, Grigoryan T, Wilson DP, **Cuadros DF**, Heard W. (2020). Armenia: Mobilizing an HIV Response When a Key Population Is Mobile. In *"Tackling the World's Fastest-Growing HIV Epidemic: More Efficient HIV Responses in Eastern Europe and Central Asia"*.

### ***Conference Proceedings***

1. **Cuadros DF**, Singh U, Olivier S, Moosa Y, Alex Edwards A, Kim H-Y, Siedner M, Wong E, Tanser F. (2022) Collision of HIV and non-communicable disease epidemics: Mapping health needs among a HIV hyperendemic community in rural South Africa. *Journal of the International AIDS Society* (25)S3 e25935

2. **Cuadros DF**, Mziray E, Abu-Raddad LJ. (2015) Incorporating spatial variability to generate sub-national estimates of HIV prevalence. *Sexually Transmitted Infections* 91(A50).
3. **Cuadros DF**, Miller D, Nagelkerke N, Abu-Raddad LJ. (2015) Are diabetics less likely to have a cleared hepatitis C virus infection? *Journal of Viral Hepatitis* 22 (Suppl S2): 59.
4. **Cuadros DF**, Abu-Raddad LJ. (2013) Spatial variability in the decline of HIV prevalence in three countries in sub-Saharan Africa. *Sexually Transmitted Infections* 89 (Suppl 1): A213.
5. **Cuadros DF**, Abu-Raddad LJ. (2013) Investigating the drivers of the hepatitis C virus epidemic in Egypt. *Qatar Foundation Annual Research Forum Proceedings* 2013 (BIOP 083).
6. **Cuadros DF**, Abu-Raddad LJ, Garcia-Ramos G. (2012) HIV prevention randomized clinical trials: Quantitative and analytical insights on the failure to measure efficacy. *International Journal of Infectious Diseases* 16: e181.
7. Awad SF, **Cuadros DF**, Abu-Raddad LJ. (2012) Characterizing HIV prevalence distribution across sub-populations at variable levels of sexual behavior. *International Journal of Infectious Diseases* 16: e180-e181.

## PRESENTATIONS

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### *Oral Presentations*

1. **Cuadros, DF**, Escobar, S, Machinon N, Ambade, P, Hoffman, Z. (2024) The Evolving Landscape of Substance Use Disorder Mortality in the United States *American Association of Geographers 2024 meeting*.
2. **Cuadros DF**, Moreno CM, Miller FD, Omori R, MacKinnon NJ.(2023) Assessing access to digital services in healthcare-underserved communities in the United States. *American Association of Geographers 2023 meeting*.
3. **Cuadros DF**, Singh U, Olivier S, Moosa Y, Alex Edwards A, Kim H-Y, Siedner M, Wong E, Tanser F. (2022) Collision of HIV and non-communicable disease epidemics: Mapping health needs among a HIV hyperendemic community in rural South Africa. *24<sup>th</sup> International AIDS Conference*.
4. **Cuadros DF**, Graf T, Oliveira T, Barnighausen T, Tanser F. (2018) Assessing the role of geographical HIV hot-spots in the spread of the HIV epidemic. *Conference on Retroviruses and Opportunistic Infections (CROI) 2018*.
5. **Cuadros DF**. (2017) The HIV epidemic in sub-Saharan Africa: From social networks to maps. *5th Annual Disease Modeling Symposium*.
6. **Cuadros DF**, Tomita A, Vandormael A, Slotow R, Burns J, Tanser F. (2017) Spatial clustering of depression in Africa. *American Association of Geographers 2017 meeting*.

7. **Cuadros DF**, Abu-Raddad LJ. (2015) Spatial epidemiology of HIV Infection in Sub-Saharan Africa: A methodology for identifying populations at high risk of HIV. *World STI & HIV Congress 2015*.
8. **Cuadros DF**, Abu-Raddad LJ. (2015) The geography of HIV infection in sub-Saharan Africa: Valleys, dams and islands. *American Association of Geographers 2015 meeting*.
9. **Cuadros DF**, Awad SF, Abu-Raddad LJ. (2014) Drivers of the HIV infection in sub-Saharan Africa: A geographical approach. *Joint Annual Meeting of the Japanese Society for Mathematical Biology and the Society for Mathematical Biology*.
10. **Cuadros DF**, Branscum A, Awad SF, Abu-Raddad LJ. (2014) Are “cold-spots” of male circumcision driving the spatial distribution of HIV infection in Tanzania? *20<sup>th</sup> International AIDS Conference*.
11. **Cuadros DF**, Branscum A, DeWolfe Miller, Abu-Raddad LJ. (2014) Spatial epidemiology of hepatitis C virus epidemic in Egypt. *Endemic and Emerging Viral Diseases of Priority in the Middle East and North Africa (MENA): A Scientific Workshop to Promote Research Collaboration*.
12. **Cuadros DF**, Branscum A, Abu-Raddad LJ. (2014) Spatial distribution of the hepatitis C virus epidemic in Egypt. *Association of American Geographers 2014 meeting*.
13. **Cuadros DF**, Awad SF, Abu-Raddad LJ. (2013) Generic patterns of HIV infection distribution in human populations. *VII Latin-American Congress of Biomathematics*.
14. **Cuadros DF**. (2009) Malaria and HIV coinfection in sub-Saharan Africa: a spatial statistical approach. *CEEBS Symposium, University of Kentucky*.

### ***Poster Presentations***

1. **Cuadros DF**, Awad S, Mee P, Tram K, Inghels M, Tomita A, Kim HY, F. Tanser F. (2024) Dynamic shifts in the HIV epidemic: Analyzing the evolution of risk groups in Sub-Saharan Africa. *25<sup>th</sup> International AIDS Conference*.
2. **Cuadros DF**, Kemp S, Mee P, Tram K, Dobra A, Inghels M, Tomita A, Kim HY, Mathenjwa T, Gupta RK, F. Tanser F. (2024) Evolution of HIV transmission networks in rural South Africa. *25<sup>th</sup> International AIDS Conference*
3. **Cuadros DF**. (2023) Progress Towards UNAIDS 95-95-95 Targets in Zimbabwe. *International Conference on AIDS and STIs in Africa ICASA 2023*
4. Kim H, Hernandez AM, Kim C, **Cuadros DF**. Factors Affecting the Use of Insecticide-treated Bed Nets (ITNs) Against Malaria in Sub-Saharan Africa. (2019) *Association of American Geographers 2019 meeting*.
5. Hernandez AM, Hincapie A, Heaton P, Mackinnon N, Li J, **Cuadros DF**. The opioid overdose crisis in the US: A spatially clustered growing epidemic. (2019) *Association of American Geographers 2019 meeting*.

6. Tomita A, Vandormael AM, **Cuadros DF**, Minin E, Heikinheimo V, Tanser F, Slotow R, Burns JK. (2018) A nationwide panel study on green environment and incident depression in South Africa: Sustainable development implications for mental health in resource-limited settings. *22nd Annual Conference of the Society for Social Work and Research (SSWR)*.
7. **Cuadros DF**, Li L, Mukandavire Z, Musuka G, Branscum A, Sartorius B, Tanser F. (2018) Towards UNAIDS 95-95-95 goal: targeting priority geographic areas for HIV prevention and care in Zimbabwe. *22<sup>th</sup> International AIDS Conference*.
8. Almarhoon Z, **Cuadros DF**, Guo J. (2018) Using geographic information system (GIS) to study the utilization trends of incretin-based and peptides therapies for type 2 diabetes in the us medicaid programa. *SPOR 23rd Annual International Meeting*.
9. Bershteyn A, Akullian A, Klein D, Jewell B, Vandormael A, **Cuadros DF**, Tanser F, Eckhoff P. (2018) Hotspots by random chance: small community size and isolation can explain “patchiness” in HIV epidemics. *22<sup>th</sup> International AIDS Conference*.
10. Akullian A, Bershteyn A, Klein D, Vandormael A, **Cuadros DF**, Tanser F. (2018) Spatial variation in HIV incidence in Kwazulu-Natal South Africa. *Conference on HIV Dynamics and Evolution*.
11. **Cuadros DF**, Sartorius B, Akullian A, Tanser F. (2017) Could clinic-based antenatal HIV prevalence data be used for geographical targeting of resource allocation? Insights from an HIV hyper-endemic rural community in South Africa. *9<sup>th</sup> IAS Conference on HIV Science*.
12. **Cuadros DF**, Awad SF, Abu-Raddad LJ. (2013) Use of routine HIV testing data for early detection of HIV epidemics in hidden subpopulations. *Four International Conference on Infectious Disease Dynamics*.
13. **Cuadros DF**, Awad SF, Abu-Raddad LJ. (2013) Mapping HIV clustering: A strategy for identifying populations at high risk of HIV infection in sub-Saharan Africa. *7<sup>th</sup> IAS Conference on HIV Pathogenesis, Treatment and Prevention*.
14. **Cuadros DF**, Abu-Raddad LJ, Garcia-Ramos G. (2012) HIV prevention randomized clinical trials: Quantitative and analytical insights on the failure to measure efficacy. *Qatar Foundation Annual Research Forum*.
15. **Cuadros DF**, Branscum AJ, Crowley PH. (2011) HIV-malaria co-infection: effects of malaria on the prevalence of HIV in East sub-Saharan Africa. *Eastern North America Region (ENAR) International Biometric Society Spring meeting*.

### ***Invited Talks***

1. Assessing the role of geographical HIV hotspots in the spread of the epidemic (2024) Mathematical and Physical Sciences Conference 2024. Jomo Kenyatta University of Agriculture and Technology, Kenya.
2. Evolution of HIV transmission networks in rural South Africa. (2024) Pangea meeting 2024.

3. Geospatial analyses to model the interplay between pandemics and chronic illnesses. (2024) Interplay between global infectious diseases and chronic illnesses Seminar. Pontificia Universidad Javeriana
4. Epidemiology of COVID-19 in the U.S.: A geospatial modelling approach. (2023) 6th Strathmore International Mathematics Conference (SIMC 2023).
5. Epidemiology of COVID-19 in the US. (2022). Division of Infectious Diseases, University of Cincinnati College of Medicine
6. Spatial epidemiology of COVID-19 in the US: Two years into the pandemic. (2022). Department of Population Health Sciences, Augusta University
7. Spatial ecology of vector borne diseases and its application I the precision epidemiology (2022). 49 Congress of the Colombian Entomological Society.
8. Spatial epidemiology of COVID-19 in the U.S. (2021) Emirates Aviation University.
9. Spatial epidemiology of the substance use disorder in the US. (2020) College of Public Health & Human Sciences, Oregon State University, US
10. Mapping HIV in Sub-Saharan Africa. (2020). Department of Epidemiology and Biostatistics, University of Cape Town, South Africa
11. COVID-19 and Public Health Policy in the USA: The Good, the Bad, and the Ugly. (2020). Department of Community Health and Epidemiology. Dalhousie University. Canada
12. Assessing the role of priority geographic areas in the spread of the HIV epidemic. (2019). Infectious Disease Institute, Kampala, Uganda.
13. The ecology of HIV infection in sub-Saharan Africa. (2019) Department of Biology, University of Cincinnati.
14. The role of HIV hotspots in the spread of the epidemic in South Africa. (2019) PANGEA meeting, Durban, South Africa.
15. Atlas of vector-borne diseases in Colombia: A community ecology approach for the study and management of infectious diseases. (2019) 46 Congress of the Entomological Society of Colombia, Medellin, Colombia
16. The HIV epidemic in sub-Saharan Africa: From social networks to maps. (2017) Emergent Properties of Individual Behavior Workshop, University of Kentucky, Lexington, US
17. The HIV epidemic in sub-Saharan Africa: Why do we need maps, and why aren't we good at it? (2017) James L. Winkle College of Pharmacy, University of Cincinnati, Cincinnati, US.
18. Surviving the next plague: Disease prediction. (2016) GIS Day, University of Cincinnati, Cincinnati, US.
19. Spatial epidemiology of HIV: A methodology for identifying populations at high risk of HIV infection in sub-Saharan Africa. (2016) Africa Centre for Population Health, Mtubatuba, South Africa.

20. The geography of HIV infection in Tanzania. (2015) Centers for Disease Control and Prevention – Tanzania. Dar Es Salaam, Tanzania.
21. HIV Allocative Efficiency Tools in Action: Examples from Three Countries. (2015) HIV Modelling Consortium. Vancouver, Canada.
22. Incorporating spatial variability to generate sub-national estimates of HIV prevalence. (2014) HIV Modelling Consortium. Nairobi, Kenya.

## COURSES TAUGHT

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Falls 2016-2022 Summers 2019-2024 Spring 2025	<b>GEOG5131/6031</b> <i>GIS and Public Health</i>
Springs 2017-2018 Falls 2018-2021	<b>GEOG4000C</b> <i>Medical Geography &amp; Epidemiology</i>
Spring 2017	<b>GEOG2043C</b> <i>Conservation Biogeography</i>
Springs 2018-2025 Fall 2023-2024	<b>GEOG5015C/6015C</b> <i>Introduction to landscape ecology and GIS</i>
Springs 2021-2023	<b>GEOG1007</b> <i>Places, Plagues &amp; People</i>

## GRADUATE ADVISOR OR COMMITTEE MEMBER

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2017 - 2020	Andres Hernandez, PhD, Department of Geography, University of Cincinnati (Advisor)
2017 - 2020	Hana Kim, PhD, Department of Geography, University of Cincinnati (Advisor)
2018 - 2021	Esteban Correa, PhD, Department of Geography, University of Cincinnati (Advisor)

2021 - 2023	Tuhin Chowdhury, MA. Department of Geography, University of Cincinnati ( <i>Advisor</i> )
2022 - 2024	Santiago Escobar, MA. Department of Geography, University of Cincinnati ( <i>Advisor</i> )
2022 - 2024	Chayanika Devi, MA. Department of Geography, University of Cincinnati ( <i>Advisor</i> )
2023 - present	Tuhin Chowdhury, PhD. Department of Geography, University of Cincinnati ( <i>Advisor</i> )
2023 - present	Joseph Katenkamp, PhD, Department of Geography, University of Cincinnati ( <i>Advisor</i> )
2024 - present	Tolulope Adedoyin, PhD, Department of Geography, University of Cincinnati ( <i>Advisor</i> )
2024 - present	Le Tu, PhD, Department of Geography, University of Cincinnati ( <i>Advisor</i> )
2022- present	Lora Newman, PhD, Department of Mathematics, University of Cincinnati ( <i>committee member</i> )
2021 - present	Xin Gu. PhD, Department of Geography, University of Cincinnati ( <i>committee member</i> )
2017 - 2020	Jingjing Li, PhD. Department of Geography, University of Cincinnati ( <i>committee member</i> )
2017 - 2020	Minxuan Lan, PhD, Department of Geography, University of Cincinnati ( <i>committee member</i> )
2017 - 2018	Yang Liu, MA, Department of Geography, University of Cincinnati ( <i>committee member</i> )
2018 - 2020	Zahra Almarhoon. James L. Winkle College of Pharmacy, University of Cincinnati ( <i>committee member</i> )
2020 - 2022	Mohammed Alsultan. James L. Winkle College of Pharmacy, University of Cincinnati

*(committee member)*

## FELLOWSHIPS AND AWARDS

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2022	<b>IAS/MSD Prize for Research in HIV Prevention.</b> The International AIDS Society Conference 2022
2017	<b>Rising Star Award.</b> McMicken College of Arts & Sciences, University of Cincinnati
2011	<b>Gertrude Flora Ribble Graduate Fellowship in Biology.</b> Department of Biology, University of Kentucky.
2011	<b>Dean's Scholarship.</b> College of Arts & Science, University of Kentucky.

## REVIEWER FOR SCIENTIFIC JOURNALS

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Theoretical Biology and Medical Modelling. 2012  
Advances in Virus Research. 2012  
Journal of AIDS & Clinical Research. 2012, 2013  
Clinical Infectious Diseases. 2012, 2013, 2014  
Reproductive Systems & Sexual Disorders. 2013  
Theory in Bioscience. 2013  
PLOS ONE. 2013, 2014, 2020  
Health & Place. 2013  
International Journal of Environmental Research and Public Health. 2014  
Infectious Diseases. 2015  
International Journal of Health Geographics. 2015  
The Lancet HIV. 2016, 2018, 2020  
F1000Research. 2017  
Science Advances. 2017  
BMC Infectious Diseases. 2018  
Nature Communications. 2019  
Heliyon. 2019  
Journal of the American Pharmacists Association. 2019  
AIDS. 2019  
BMJ Global Health. 2020  
JAMA Open Network. 2020, 2021, 2022  
International Journal of Infectious Diseases. 2020  
Nature 2021  
Plos Computational Biology 2021  
The Lancet Regional Health Americas 2022  
The Lancet Global Health 2023

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## EDITORIAL SERVICES

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- 2020-present Editorial board member *BMC Infectious Diseases*
- 2020-2021 Guest editor, *International Journal of Environmental Research and Public Health* – Special Issue “Advances in spatial and temporal analysis of respiratory tract infection epidemics”

## CONTINUING EDUCATION

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**June 17-19, 2012:** “A Practical Short Course on Infectious Disease Modeling”, Mahidol University, Bangkok, Thailand

**September 10-21, 2012:** “Introduction to Mathematical Models of the Epidemiology & Control of Infectious Diseases”, Imperial College, London, UK.

**July 18-28, 2013:** “Principles of STD/HIV Research”, University of Washington Center for AIDS and STD, Seattle, Washington.

**September 10-14, 2018:** “World Bank Skills Building Program on Artificial Intelligence, Big Data, and Decision Science in Health and Nutrition”, The World Bank, Bucharest, Romania.

## COMPUTER COMPETENCIES

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MATLAB, Mathematica, SAS, R, Python, ArcGIS, SaTScan, DIVA-GIS, GeoDa

## MEDIA COVERAGE

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- *Narrowing the digital divide for health care.* Available at: [https://www.uc.edu/news/articles/2023/03/us-technology-gap-means-more-americans-will-have-less-access-to-health-care.html?utm\\_source=cerkl&utm\\_medium=email&utm\\_campaign=newsletter-03292023&cerkl\\_id=17180903&cerkl\\_ue=hulz1NNvkKQNUNK%252Bz%252BeAlPxPgRsRhEP1xyyEB4Uj2J8%253D](https://www.uc.edu/news/articles/2023/03/us-technology-gap-means-more-americans-will-have-less-access-to-health-care.html?utm_source=cerkl&utm_medium=email&utm_campaign=newsletter-03292023&cerkl_id=17180903&cerkl_ue=hulz1NNvkKQNUNK%252Bz%252BeAlPxPgRsRhEP1xyyEB4Uj2J8%253D)
- *UC research helps identify vulnerable populations.* Available at: <https://www.uc.edu/news/articles/2023/02/uc-research-helps-identify-vulnerable-populations.html>
- *UC study says vaccination gap is about more than politics. It's also about access to care.* Available at: <https://www.wvxu.org/health/2022-12-21/university-cincinnati-study-vaccination-gap-rural-politics>

- *COVID vaccinations lag in rural, underserved communities.* Available at: <https://www.uc.edu/news/articles/2022/12/covid-vaccinations-lag-in-rural-underserved-communities.html>
- *Visiting scholars bring international experience to Augusta University.* Available at: <https://jagwire.augusta.edu/visiting-scholars-bring-international-experience-to-augusta-university/?fbclid=IwAR3KMERULbWLdXqZMzP5eApgaDDnyrbHZeI1EtyBIjwVye8friJzzE8>
- *Omicron led to higher rates of death in rural America than urban areas.* Available at: <https://www.news-medical.net/news/20220614/Omicron-led-to-higher-rates-of-death-in-rural-America-than-urban-areas.aspx>
- *Omicron hit rural America harder than cities.* Available at: <https://www.uc.edu/news/articles/2022/06/omicron-hit-rural-america-harder-than-cities.html>
- *Third COVID-19 wave hit rural America especially hard.* Available at: <https://www.uc.edu/news/articles/2022/02/delta-variant-of-covid-19-hit-rural-america-especially-hard.html>
- *Counties With Low Vaccination Rates Endured ‘More Intense Surge’ Of Covid Cases During Delta Wave, Study Finds.* Available at: <https://www.forbes.com/sites/roberthart/2022/02/10/counties-with-low-vaccination-rates-endured-more-intense-surge-of-covid-cases-during-delta-wave-study-finds/?sh=1e12afb620ca>
- *Championing science amid adversity.* Available at: <https://www.uc.edu/news/1020/championing-science.html>
- *Do You Live in a U.S. Opioid OD Hotspot?* Available at: <https://www.usnews.com/news/health-news/articles/2021-06-01/do-you-live-in-a-us-opioid-od-hotspot>
- *New study finds Black men may soon be most affected group from opioid crisis.* Available at: <https://komonews.com/news/addicted-america/study-finds-black-men-will-soon-be-most-affected-group-in-opioid-crisis>
- *Opiate overdoses linked to poor mental health.* Available at: <https://medicalxpress.com/news/2021-05-opiate-overdoses-linked-poor-mental.html>
- *UC opioid study identifies at-risk populations in America.* Available at: <https://www.miragenews.com/uc-opioid-study-identifies-at-risk-populations-566885/>
- *Rural America faces unique COVID-19 risk.* Available at: <https://www.uc.edu/news/articles/2020/10/rural-america-faces-unique-covid-19-risk.html>
- *COVID-19 Dispatch: University of Cincinnati Team Projects Impact of Social Distancing Measures on Healthcare Resources in Ohio.* Available at: <https://www.ashp.org/news/2020/05/08/uc-projects-impact-of-social-distancing-measures-on-healthcare-resources-in-ohio?loginreturnUrl=SSOCheckOnly>
- *UC lab projects increase in covid-19 cases in urban Ohio.* Available at: <http://lovelandbeacon.com/uc-lab-projects-increase-in-covid-19-cases-in-urban-ohio/>
- *UC projections: Additional closures possible after 6 weeks of reopening state.* Available at: <https://www.wlwt.com/article/uc-projections-additional-closures-possible-after-6-weeks-of-reopening-state/32342268#>
- *Residents in some Ohio counties face greater risk from COVID-19.* Available at: <https://medicalxpress.com/news/2020-05-residents-ohio-counties-greater-covid-.html>

- *Ohio must relax COVID-19 rules slowly or see renewed disease, UC report warns.* Available at: <https://www.cincinnati.com/story/news/2020/05/01/ohio-must-relax-covid-19-rules-slowly-see-renewed-disease-university-cincinnati-report-warns/3063178001/>
- *Cincinnati media talk to UC researchers about COVID-19 projections.* Available at: <https://www.newsbreak.com/ohio/cincinnati/news/1559295020456/cincinnati-media-talk-to-uc-researchers-about-covid-19-projections>
- *Ohio's COVID-19 experience offers lessons.* Available at: <https://www.uc.edu/news/articles/n20938012/spread-of-coronavirus-across-ohio-offers-lessons-uc-study-says.html>
- *Psych Central: Ohio study IDs those highest at risk for opioid addiction.* Available at: <https://www.uc.edu/news/articles/2020/03/n20899512.html>
- *UC identifies Ohioans most at risk of opiate overdose.* UC News. Available at: <https://www.uc.edu/news/articles/2020/03/n20898548.html>
- *Washington Post: Cities seeing more overdose deaths.* 2019. Available at: <https://www.uc.edu/news/articles/2019/08/n20846804.html>
- *UC students take on malaria prevention.* 2019. UC News. 2019. Available at: [https://www.uc.edu/news/articles/2019/04/n2078824.html?fbclid=IwAR3S4MG1T1w4AtjPbG7HFbrIcLQWwEQoreSg\\_HQb1ijF\\_mnjg5WmncFnryI](https://www.uc.edu/news/articles/2019/04/n2078824.html?fbclid=IwAR3S4MG1T1w4AtjPbG7HFbrIcLQWwEQoreSg_HQb1ijF_mnjg5WmncFnryI)
- *UC map identifies Ohio's opiate hot zones.* 2019. UC News. Available at: <https://www.uc.edu/news/articles/2019/04/n2079681.html>
- *TB and depression are linking up to devastate SA.* 2019. Times Live. Available at: <https://www.timeslive.co.za/news/south-africa/2019-03-08-tb-and-depression-are-linking-up-to-devastate-sa/>
- *Poor infection control to blame for hepatitis C epidemic in Egypt.* 2014. Nature Middle East. Available at: <http://www.natureasia.com/en/nmiddleeast/article/10.1038/nmiddleeast.2014.246>
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