

Fausto Andres Bustos Carrillo, PhD

INFECTIOUS DISEASE EPIDEMIOLOGIST & DATA SCIENTIST

✉ fausto.bustos@nih.gov | 🏠 faustoabc.com | in fausto-bustos
📞 fausto-bustos | 🐦 @FaustoBustos

Education

University of California, Berkeley

Berkeley, CA

PHD IN EPIDEMIOLOGY

May 2020

- **Advisors:** Dr. Eva Harris and Dr. Arthur Reingold
- **Dissertation:** *Epidemiological, clinical, and spatial insights into Zika, chikungunya, and dengue virus infections in Managua, Nicaragua*

University of California, Berkeley

Berkeley, CA

MA IN BIostatISTICS

May 2019

- **Advisor:** Dr. Alan Hubbard
- **Thesis:** *Case definitions and clinical manifestations of Zika in a large pediatric cohort in Managua, Nicaragua*

Harvard University

Cambridge, MA

MS IN EPIDEMIOLOGY, CONCENTRATION IN INFECTIOUS DISEASE EPIDEMIOLOGY

May 2014

- **Advisor:** Dr. Marc Lipsitch
- **Thesis:** *Estimating the extent and burden of non-pandemic, non-seasonal avian influenza transmission from poultry to humans: a systematic review of the literature*

Stanford University

Stanford, CA

BA IN HUMAN BIOLOGY AND POLITICAL SCIENCE

Jun 2012

- **Advisors:** Dr. Douglas Brutlag & Dr. Virginia Walbot

Professional and Research Experience

Postdoctoral Fellow, National Institute of Allergy & Infectious Diseases

Bethesda, MD

VIRAL EPIDEMIOLOGY AND IMMUNITY UNIT

Mar 2024 – present

EPIDEMIOLOGY AND DATA MANAGEMENT UNIT

Sep 2023 – Mar 2024

- Analyzed the anti-Spike IgG responses due to COVID-19 vaccinations and breakthrough SARS-CoV-2 infections in a longitudinal cohort of immunocompromised persons
- Facilitated a workshop on recommendations to strengthen observational research in epidemic settings
- Evaluated how international health indicators incorporated elements of data readiness for pandemic preparedness

Data Science Fellow, Oak Ridge Institute for Science and Technology

Bethesda, MD

NATIONAL INSTITUTE OF ALLERGY & INFECTIOUS DISEASES

Sep 2021 – Sep 2023

- Provided data science expertise and computational assistance to advance the research mission of various NIAID offices
- Analyzed the depth of data science usage in the scientific literature across 212 priority areas for NIAID
- Led the serological assessment of COVID-19 vaccinations on immunocompromised persons
- Characterized the uses, restrictions, and digital systems for human, animal, and environmental data among federal agencies
- Ported parts of the eventglm R package for survival analysis with psuedo-observations into Python

Director of Epidemiology and Statistics, Sustainable Sciences Institute

San Francisco, CA

CALIFORNIA OFFICE

Jun 2020 – Aug 2021

- Researched the clinical and spatial aspects of dengue, chikungunya, Zika, and COVID-19 epidemics in Managua, Nicaragua
- Contributed to many research projects at the Sustainable Sciences Institute and the Harris research program at UC Berkeley
- Provided epidemiological and biostatistical support to colleagues in Ecuador, at the University of Michigan, Ann Arbor, and at the National University of Singapore
- Worked closely with financial, accounting, and administrative personnel to ensure the timely submission of grants, publications, and reports necessary to the continued operation of ongoing scientific projects
- Organized, led, and conducted workshops on the use of the R statistical programming language for data entry, cleaning, visualization, and analysis at the novice and intermediate levels

Data Analyst, California Department of Public Health*Richmond, CA*

COVID-19 MODELING AND NON-PHARMACEUTICAL INTERVENTION TEAM

Apr 2020

COVID-19 EPIDEMIC INTELLIGENCE AND RAPID ASSESSMENT TEAM

May 2020 – Jun 2020

- Analyzed daily COVID-19 case, death, and testing data to aid California state and county planning purposes
- Provided epidemiological, statistical, and data visualization support for the release of COVID-19 data to the public

Graduate Student Researcher, UC Berkeley School of Public Health*Berkeley, CA*

DIVISION OF INFECTIOUS DISEASES AND VACCINOLOGY, HARRIS LAB

Aug 2016 – May 2020

- Analyzed the clinical, epidemiological, and spatio-temporal aspects of Zika virus, chikungunya virus, and dengue virus epidemics that impacted the Pediatric Dengue Cohort Study (N = 4,050) from 2004 - 2019
- Worked collaboratively with ~200 colleagues in Managua, Nicaragua to design new studies and publish research findings
- Taught R and applied statistics workshops to research group members
- Mentored 3 Master's students during the course of their thesis projects
- Provided biostatistical and epidemiological support to colleagues' biological, virological, anthropometric, and metabolic projects
- Created an accurate map of the study area to facilitate household visits by study staff
- Helped write, edit, and review 4 grant proposals submitted to the National Institutes of Health

Guest Researcher, Centers for Disease Control and Prevention*Berkeley, CA*

ENTERIC DISEASE EPIDEMIOLOGY BRANCH

Aug 2013 – Feb 2017

- Provided largest update to campylobacteriosis surveillance in the US since 1987 by analyzing case data and creating figures/tables for the research publication

Intern, Centers for Disease Control and Prevention*Atlanta, GA*

ENTERIC DISEASE EPIDEMIOLOGY BRANCH

May 2013 – Aug 2013

- Collated all reported campylobacteriosis case data covering the 2004 – 2012 time period from federal and state databases
- Assisted in the design of CDC data intake forms used for American travelers returning from areas with a MERS-CoV outbreak

Graduate Student Researcher, Harvard School of Public Health*Boston, MA*

DEPARTMENT OF EPIDEMIOLOGY, LIPSITCH LAB

Feb 2013 – May 2014

- Conducted a systematic review of influenza to estimate the risk of avian influenza virus transmission from birds to humans, finding that transmission at the human-animal interface is rare

Intern, US Department of State*Washington, DC*

OFFICE OF INTERNATIONAL HEALTH AND BIODEFENSE

Jan – Apr 2012, Jul – Aug 2012

- Authored internal research and policy/economic analysis papers on polio eradication and neglected tropical diseases
- Compiled data across federal government to develop a public diplomacy portfolio and embassy outreach materials for ambassadors to promote US public health research and assistance for World TB Day 2012
- Attained Secret-level security clearance to work in this position

Undergraduate Student Researcher, Stanford University*Stanford, CA*

DEPARTMENT OF POLITICAL SCIENCE, IYENGAR LAB

June – Aug 2011

- Collected political and biographical information for candidates who ran in the 2010 primary and general elections for federal or state-wide positions

Undergraduate Student Researcher, UC San Diego*San Diego, CA*

DEPARTMENT OF BIOLOGY, SCHMIDT LAB

Jun – Aug 2010

- Extracted hundreds of DNA samples from maize mutants and genotyped them to characterize maize genes responsible for maize ear development

Undergraduate Student Researcher, Stanford University*Stanford, CA*

DEPARTMENT OF BIOLOGY, WALBOT LAB

May 2009 – Jun 2012

- Performed a genetic screen of ~70,000 maize plants looking for Mu transposition mutagenesis-induced male sterility
- Characterized double mutants developmentally via laser capture microdissection, fluorescent staining, frozen section histology, scanning electron microscopy, and confocal microscopy

Co-founder and Senior Consultant, College Aces*San Francisco, CA*

DOMESTIC OPERATIONS

Dec 2008 – Dec 2017

- Prepared high school students for college success by advising them on the selection of classes and extra-curricular activities
- Produced original content for clients, fundraised, and developed the long-term vision for the company

Teaching Experience

Guest Lectures

- Spring 2019 **Foundations of Global Health**, University of California, Berkeley (25 undergraduate students)
Professor: Dr. Arthur Reingold
Data collection and analysis
- Fall 2018 **Epidemiology**, California State University, East Bay (25 undergraduate students)
Professor: Dr. Ryan Gamba
Career paths and science in global public health
- Spring 2018 **Advanced Epidemiological Methods**, University of California, Berkeley (30 PhD students)
Professor: Dr. Patrick Bradshaw
Bayesian methods in epidemiology
- Spring 2017 **Foundations of Global Health**, University of California, Berkeley (25 undergraduate students)
Professor: Dr. Arthur Reingold
Preparing to go abroad as a student researcher
- Fall 2016 **Epidemiologic Methods II**, University of California, Berkeley (110 PhD students)
Professor: Dr. John Colford
Advanced tutorial on directed acyclic graphs and information bias in epidemiology

Teaching Assistant

- Spring 2018 **Advanced Epidemiological Methods**, University of California, Berkeley (30 PhD students)
Professor: Dr. Patrick Bradshaw
Head TA. Designed teaching material, including an 18-page primer on the \LaTeX typesetting language. Taught R statistical computing skills. Planned weekly section activities to reinforce advanced epidemiology topics. Graded and wrote answer keys for homeworks, midterm, and final exam.
- Fall 2017 **Epidemiologic Methods I**, University of California, Berkeley (110 Master's students)
Professor: Dr. Sandra McCoy
TA. Planned weekly section activities and midterms. Wrote and graded the midterm and final exams.
- Fall 2016 **Epidemiologic Methods II**, University of California, Berkeley (110 PhD students)
Professor: Dr. John Colford
TA. Designed teaching material and planned weekly section activities. Held weekly office hours to review epidemiological theory topics. Wrote questions for and graded the midterm and final exam.
- Spring 2016 **Introduction to Epidemiology & Human Disease**, University of California, Berkeley (250 undergraduate students)
Professors: Dr. Lisa Barcellos & Dr. Mahasin Mujahid
TA. Designed and led activities for 3 sections of students. Organized and graded the final projects. Held weekly office hours to review introductory epidemiological methods. Planned homework assignments. Wrote and graded the midterm and final exams.

Scientific Presentations

Conference Talks and Posters

- Jun 2022 **The influence of COVID-19 pandemic restrictions on Respiratory Syncytial Virus (RSV) hospitalizations in the United States**
Society of Epidemiologic Research (SER), [Portland, OR](#), Talk
- Nov 2022 **Fifteen years of primary care observations reveal cases of afebrile dengue and distinguishing characteristics of dengue, chikungunya, and Zika**
American Society of Tropical Medicine and Hygiene (ASTMH), [Seattle, WA](#), Talk
- Nov 2021 **Four epidemics of chikungunya, Zika, and COVID-19 in Nicaragua reveal bias in case-based mapping**
American Society of Tropical Medicine and Hygiene (ASTMH), [National Harbor, MD](#), Talk
- Jun 2021 **Tyroler Prize Talk: Four epidemics of chikungunya, Zika, and COVID-19 in Nicaragua reveal bias in case-based mapping**
Society of Epidemiologic Research (SER), [San Diego, CA](#), Talk
- Jun 2021 **Four epidemics of chikungunya, Zika, and COVID-19 in Nicaragua reveal bias in case-based mapping**
Society of Epidemiologic Research (SER), [San Diego, CA](#), Talk
- Dec 2020 **Casual causal inference: Descriptive, risk factor, & spatial epidemiology in a time of pandemic crisis**
Society of Epidemiologic Research (SER), [Boston, MA](#), Talk
- Dec 2020 **The non-spatial, spatial, and spatiotemporal epidemiology of explosive chikungunya and Zika epidemics in Managua, Nicaragua**
American Society of Tropical Medicine and Hygiene (ASTMH), [Toronto, Ontario, Canada](#), Poster
- Dec 2020 **A comparative analysis of dengue, chikungunya, and Zika manifestations in a pediatric cohort**
American Society of Tropical Medicine and Hygiene (ASTMH), [Toronto, Ontario, Canada](#), Poster
- Nov 2019 **Pediatric Zika is mild, varies by age, and is often missed under current case definitions**
American Society of Tropical Medicine and Hygiene (ASTMH), [National Harbor, MD](#), Poster
- Oct 2018 **Seroprevalence, risk factor, and spatial analyses of Zika virus infection after the 2016 epidemic in Managua**
*American Society of Tropical Medicine and Hygiene (ASTMH), [New Orleans, LA](#), Talk
American Society of Tropical Medicine and Hygiene (ASTMH), [New Orleans, LA](#), Poster*
- Nov 2017 **An index cluster study of chikungunya in Nicaragua with Bayesian and risk factor analyses**
American Society of Tropical Medicine and Hygiene (ASTMH), [Baltimore, MD](#), Talk

Invited, Non-conference Presentations

- Nov 2023 **Infectious diseases and the LGBTQ+ community**
2U, Inc., [Washington, DC](#), Talk
- Jul 2023 **Mpox across the US & in the queer community**
2U, Inc., [Washington, DC](#), Talk
- Mar 2022 **Vector-borne diseases and their impact on human health**
Georgia State University, [Atlanta, GA](#), Talk
- Nov 2019 **Using statistics and models to discern the epidemiology of chikungunya and Zika viruses**
Georgetown University, [Washington, DC](#), Talk
- Aug 2019 **Age-dependent manifestations and case definitions of pediatric Zika: a prospective cohort study**
Pan American Health Organization, Surveillance of Arboviral Diseases Meeting, [Washington, DC](#), Talk
- May 2018 **Public health research at Berkeley: Student perspectives**
University of California, Berkeley, School of Public Health 75th Anniversary, [Berkeley, CA](#), Talk
- Jan 2018 **High seroprevalence of anti-Zika virus antibodies in children and adults in Managua, Nicaragua after the 2016 epidemic**
University of California, Berkeley, Epidemiology Department Annual Retreat, [Berkeley, CA](#), Talk

Professional Activities

- Reviewer** *Science*
Nature Microbiology
Nature Sustainability
New England Journal of Medicine
Epidemiology
American Journal of Epidemiology
Journal of Immunology
PLOS Neglected Tropical Diseases
Open Forum Infectious Diseases
International Journal of Infectious Diseases
- Membership** American Society of Tropical Medicine and Hygiene (ASTMH)
Society for Epidemiologic Research (SER)

Skills

- Languages** *Proficient:* English
Intermediate: Spanish
Beginner: French
- Software** *Proficient:* R
Intermediate: SAS, SaTScan, ArcGIS
Beginner: Python
- Other** Microsoft Word, Excel, PowerPoint, Google Documents

Honors and Awards

2024	Socialite Award , Stonewall Kickball DC
2021	Tyroler Student Prize , Society of Epidemiological Research
2019	Outstanding Graduate Student Instructor Award , University of California, Berkeley
2017	Public Health Alumni Association Scholarship , University of California, Berkeley
2012	Center for Communicable Disease Dynamics Traineeship , Harvard School of Public Health
2012	Chicano Community Senior Award for Academic Excellence , Stanford University
2008 – 2012	Chicano Community Award for Highest Academic Honors , Stanford University
2007	Gates Millennium Scholarship , The Bill and Melinda Gates Foundation

Research Support

R01 AI153416 (CO-INVESTIGATOR)

NIAID/NIH

13 Jul 2021 – 1 Sept 2021

Living in the post-Zika world: Impact of interactions between dengue and Zika viruses on diagnostics, antibody dynamics, and correlates of disease risk

This project develops new serological assays for the detection of dengue and Zika viruses, uses diverse modeling approaches to characterize viral transmission, and employs state-of-the-art methods for antibody analysis to study samples and data from the longest-running dengue/Zika cohort study. The overarching goal is to understand future flavivirus disease in tropical areas where infection and disease outcomes are modulated by widespread Zika virus immunity.

SUPPLEMENT TO P01 AI106695 (GRADUATE STUDENT)

NIAID/NIH

24 Jan 2018 – 31 Dec 2019

Spatiotemporal analysis of arbovirus infection, immunity, disease, and risk in Nicaragua

This project uses immunological, clinical, and location data from the longstanding Pediatric Dengue Cohort Study to characterize the spatial and spatiotemporal aspects of the dengue, chikungunya, and Zika epidemics observed in the cohort, with the goal of identifying spatial commonalities inherent to the epidemics and locales within the study area where interventions could reduce future epidemic potential.

Scientific Publications

Book chapters:

1. Harris E, **Bustos Carrillo F**. (2020). Migration of dengue and Zika: Across continents, around cities, and within the human host. In Knolle J. & Poskett J. (Eds.), *Migration*. Cambridge, UK: Cambridge University Press.

Published journal articles:

1. Warnes C, **Bustos Carrillo F**, Zambrana JV, Lopez Mercado B, Arguello S, Ampié O, Collado D, Sanchez N, Ojeda S, Kuan G, Gordon A, Balmaseda A, Harris E. Longitudinal Analysis of the Burden of Post-Acute Chikungunya-Associated Arthralgia in Children and Adults: A Prospective Cohort Study in Managua, Nicaragua (2014-2019). *PLOS Neglected Tropical Diseases*. 2024 Feb 28; 18(2):e0011948.
2. Zendt M,* **Bustos Carrillo F***, Kelly S, Saturday T, DeGrange M, Ginigeme A, Wu L, Callier V, Ortega-Villa A, Faust M, Chang-Rabley E, Bugal K, Kenney H, Khil P, Youn J, Osei G, Regmi P, Anderson V, Bosticardo M, Daub J, DiMaggio T, Kreuzburg S, Pala F, Pfister J, Treat J, Ulrick J, Karkanitsa M, Kalish H, Kuhns DB, Long Priel D, Fink DL, Tsang JS, Sparks R, Uzel G, Waldman MA, Zerbe CS, Delmonte OM, Bergerson JRE, Das S, Freeman AF, Lionakis MS, Sadtler K, van Dormalen N, Munster V, Notarangelo LD, Holland SM, Ricotta EE. Characterization of the anti-spike IgG immune response to COVID-19 vaccines in people with a wide variety of immunodeficiencies. *Science Advances*. 2023 Oct 12; 9(41):eadh3150.
3. Zambrana Madriz JV, **Bustos Carrillo F**, Ojeda S, Lopez M, Latta K, Brandt A, Kuan G, Gordon A, Reinhold A, Harris E. Epidemiologic features of acute pediatric diarrhea in Managua, Nicaragua, from 2011 to 2019. *American Journal of Tropical Medicine and Hygiene*. 2022 Jun 15; 106(6):1757–1764.
4. Wraith S, Balmaseda A, **Bustos Carrillo F**, Guillermina K, Huddleston J, Kubale J, Lopez R, Ojeda S, Schiller A, Lopez B, Sanchez N, Webby R, Nelson M, Harris E, Gordon A. Homotypic protection against influenza in a pediatric cohort in Managua, Nicaragua. *Nature Communications*. 2022 Mar 4; 13:1990.
5. Katzelnick L, Zambrana JV, Elizondo D, Collado D, Garcia N, Arguello S, Mercado JC, Miranda T, Ampie O, Mercado BL, Narvaez C, Gresh L, Binder R, Ojeda S, Sanchez N, Plazaola M, Latta K, Schiller A, Coloma J, **Bustos Carrillo F**, Narvaez F, Halloran E, Gordon A, Kuan G, Harris E. Dengue and Zika virus infections in children elicit cross-reactive protective and enhancing antibodies that persist long term. *Science Translational Medicine*. 2021 Oct 6; 13(614):eabg9478.

6. Sun H, Binder R, Dickens B, Florez de Sessions P, Rabba M, Xin Pei Ho E, Cook A, **Bustos Carrillo F**, Carey J, Kuan G, Balmaseda A, Ooi E, Harris E, Sessions O. Viral genome-based Zika virus transmission dynamics in a paediatric cohort during the 2016 Nicaragua epidemic. *EBioMedicine*. 2021 Oct 1; 72:103596.
7. Maier H, Kuan G, Saborio S, **Bustos Carrillo F**, Plazaola M, Barilla C, Sanchez N, Lopez R, Smith M, Kubale J, Ojeda S, Zuniga-Moya J, Carlson B, Lopez B, Gajewski A, Chowdhury M, Harris E, Balmaseda A, Gordon A. Clinical spectrum of severe acute respiratory syndrome coronavirus 2 infection and protection from symptomatic reinfection. *Clinical Infectious Diseases*. 2022 Jul 1; 75(1):e257–e266.
8. Echegaray F, Laing P, Hernandez S, Marquez S, Harris A, Liang I, Chambers A, McLennen N, Sugiharto V, Chen H, Vivero Villagran S, Collingwood A, Montoya M, **Bustos Carrillo F**, Simons M, Lopez A, Cooper P, Trueba G, Eisenberg J, Wu S, Messer W, Harris E, C Josefina, Katzelnick L. Adapting rapid diagnostic tests to detect historical dengue virus infections. *Frontiers in Immunology*. 2021 Jul 23; 12:703887.
9. Warnes C, Santacruz E, **Bustos Carrillo F**, Dario Velez I. The epidemiology and surveillance of dengue in Medellin, Colombia, 2009–2017. *American Journal of Tropical Medicine and Hygiene*. 2021 May 5; 104(5):1719–1728.
10. Katzelnick L, Narvaez C, Arguello S, Lopez Mercado B, Damaris C, Ampie O, Elizondo D, Miranda T, **Bustos Carrillo F**, Mercado JC, Latta K, Schiller A, Segovia-Chumbrez B, Ojeda S, Sanchez N, Plazaola M, Coloma J, Halloran ME, Premkumar L, Gordon A, Narvaez F, de Silva A, Kuan G, Balmaseda A, Harris E. Zika virus infection enhances future risk of severe dengue disease. *Science*. 2020 Aug 28; 369(6507):1123–1128.
11. Burger-Calderon R,* **Bustos Carrillo F**,* Gresh L,* Ojeda S, Sanchez N, Plazaola M, Katzelnick L, Mercado BL, Monterrey JC, Elizondo D, Arguello S, Nuñez A, Gordon A, Balmaseda A, Kuan G, Harris E. Age-dependent manifestations and case definitions of paediatric Zika: a prospective cohort study. *The Lancet Infectious Diseases*. 2020 Mar 1; 20(3):371–380.
12. **Bustos Carrillo F**, Collado D, Sanchez N, Ojeda S, Lopez Mercado B, Burger-Calderon R, Gresh L, Gordon A, Balmaseda A, Kuan G, Harris E. Epidemiological evidence for lineage-specific differences in the risk of inapparent chikungunya virus infection. *Journal of Virology*. 2019 Feb 5; 93(4):e01622–e01618.
13. **Bustos Carrillo F**, Gordon A, Harris E. Reply to Gérardin et al. *Clinical Infectious Diseases*. 2019 Jan 1; 68(1):172–174.
14. Zambrana JV,* **Bustos Carrillo F**,* Burger-Calderon R, Collado D, Sanchez N, Ojeda S, Monterrey JC, Plazaola M, Lopez B, Arguello S, Elizondo D, Aviles W, Coloma J, Kuan G, Balmaseda A, Gordon A, Harris E. Seroprevalence, risk factor, and spatial analyses of Zika virus infection after the 2016 epidemic in Managua, Nicaragua. *Proceedings of the National Academy of Science*. 2018 Sep 11; 115(37):9294–9299.
15. Carlson CJ, Getz WM, Kausrud KL, Cizauskas CA, Blackburn JK, **Bustos Carrillo F**, Colwell R, Easterday WR, Ganz HH, Kamath PL, Økstad OA, Turner WC, Kolstø AB, Stenseth NC. Spores and soil from six sides: interdisciplinarity and the environmental biology of anthrax (*Bacillus anthracis*). *Biological Reviews*. 2018 Nov 6; 93(4):1813–1831.
16. Burger-Calderon R, Gonzalez K, Ojeda S, Zambrana JV, Sanchez N, Cruz CC, Laguna HS, **Bustos Carrillo F**, Plazaola M, Mercado BL, Elizondo D, Arguello S, Monterrey JC, Nuñez A, Coloma J, Waggoner JJ, Gordon A, Kuan G, Balmaseda A, Harris E. Zika virus infection in Nicaraguan households. *PLOS Neglected Tropical Diseases*. 2018 May 31; 12(5):e0006518.

17. Geissler AL,* **Bustos Carrillo F**,* Swanson K, Patrick ME, Fullerton KE, Bennett C, Barrett K, Mahon BE. Increasing *Campylobacter* infections, outbreaks, and antimicrobial resistance in the United States, 2004-2012. *Clinical Infectious Diseases*. 2017 Jul 20; 65(10):1624–1631.

Pre-prints and manuscripts under review:

18. **Bustos Carrillo F**, Lopez Mercado B, Carey Monterrey J, Collado D, Saborio S, Miranda T, Barilla C, Ojeda S, Sanchez N, Plazaola M, Suazo Laguna H, Lopez M, Elizondo D, Arguello S, Gajewski A, Maier H, Latta K, Carlson B, Coloma J, Katzelnick L, Gordon A, Sturrock H, Balmaseda A, Kuan G, Gordon A, Harris E. Epidemics of chikungunya, Zika, and COVID-19 reveal bias in case-based mapping.

Working papers:

19. **Bustos Carrillo F**, Ojeda S, Sanchez N, Plazaola M, Collado D, Miranda T, Saborio S, Lopez Mercado B, Carey Monterrey J, Katzelnick L, Elizondo D, Arguello S, Brandt A, Campredon L, Latta K, Gordon A, Balmaseda A, Kuan G, Harris E. A comparative analysis of dengue, chikungunya, and Zika manifestations in a pediatric cohort.
20. Mercado-Hernandez R, Myers R, **Bustos Carrillo F**, Zambrana JV, Lopez Mercado B, Sanchez N, Gordon A, Balmaseda A, Kuan G, Harris E. Obesity is associated with increased pediatric dengue virus infection and disease: a 9-year cohort study in Managua, Nicaragua.
21. Zendt M, **Bustos Carrillo F**, Ricotta E. Clinical and immunological outcomes for SARS-CoV-2 breakthrough infections among individuals with immune disorders.
22. Ricotta E, **Bustos Carrillo F**, Evans N. Burning down the house: A reassessment of the evidence hierarchy.
23. Ricotta E, **Bustos Carrillo F**, Angelli-Nichols S, Barugahare J, Benton A, Carlson CJ, Chang-Rabley E, Dean N, Duda SN, Federer L, Fill MMA, LeRoy EC, Linton NM, Lipsitch M, Mathur MB, Phelan AL, Rid A, Rosen JB, Sauer L, Sullivan SG, Zendt M, Evans N. Reform strategies for observational research in epidemic settings.

* Co-first authors