

Maia C. Tarnas

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Education

- Exp. 2026 **Ph.D.** in Public Health (Global Health concentration), University of California, Irvine
National Research Service Award Predoctoral Individual Fellowship, National Institute of Allergy and Infectious Diseases: F31AI183632
- 2019 **B.A.** (*summa cum laude*), Tufts University
Community Health and Middle Eastern Studies; Minor in Arabic

Professional History

- 2025 – **World Health Organization** – Consultant
- 2024 – 25 **Syrian American Medical Society** – Consultant
- 2022 – 24 **University of California, Irvine** – Graduate Student Researcher
- 2020 – 21 **Community Resource Initiative** – Tuberculosis Drug Assistance Program Coordinator
- 2019 – 20 **Community Resource Initiative** – Tuberculosis Drug Assistance Program Specialist
- 2019 – 22 **Tufts Initiative for the Forecasting and Modeling of Infectious Diseases** – Fellow
- 2019 **International Society for Infectious Diseases** – Research Assistant

Publications (* Indicates joint first authorship)

Peer-Reviewed Papers

23. Ching C, Sayeeda RJ, **Tarnas MC**, Gross N, Abu-Khalil A, Shaikh B, Zaman MH (2025). Mapping utility and applicability of research and ethics frameworks for displaced populations. *Global Public Health*. doi:[10.1080/17441692.2025.2557322](https://doi.org/10.1080/17441692.2025.2557322)
22. **Tarnas MC**, Almhawish N, Ratnayake N, Elferruh Y, Aladhan I, Alhaffar MBA, Abbara A (2025). Climate change, conflict, forced displacement, and epidemic-prone diseases: an exploratory study in northern Syria. *BMC Public Health*. doi:[10.1186/s12889-025-23918-3](https://doi.org/10.1186/s12889-025-23918-3)
21. Gross N*, **Tarnas MC***, Sayeeda R, Ching C, Zaman MH (2025). Current infectious disease research practices with forcibly displaced people in the top ten low- and middle-income host countries: A systematic review. *Journal of Migration and Health*. doi:[10.1016/j.jmh.2025.100341](https://doi.org/10.1016/j.jmh.2025.100341)
20. **Tarnas MC**, Al-Jobury S, Al-Dheeb N, Quradi A, Metry N, Hadjiabduli S, Awad I, Ching C, Parker DM, Zaman MH (2025). Reimagining refugee camps: Toward ethical, sustainable, and integrated health systems. *International Migration*. doi:[10.1111/imig.70060](https://doi.org/10.1111/imig.70060)
19. Abu El Kheir-Mataria W, **Tarnas MC**, Simonek T, Al-Jadba G, Boatemaa Setrana M, Ellis K, Heck G, Ayoub M, İçduygu A, Zaman MH, Parker DM (2025). Rethinking health in refugee camps: Addressing socioeconomic and geopolitical constraints. *International Migration*. doi:[10.1111/imig.70048](https://doi.org/10.1111/imig.70048)
18. Lazieh SM, **Tarnas MC**, Wagner K, Alkhatib I, Polinori C, Netfagi M, Ghandour A, Qaddour S,

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- Zuhaili B, Burnham G. (2025). Healthcare workers' perceptions of postoperative care and implementation challenges in conflict-affected Northwest Syria: a mixed-methods analysis. *BMJ Public Health*. doi:[10.1136/bmjph-2024-001236](https://doi.org/10.1136/bmjph-2024-001236)
17. Alhaffar MBA, Abbara A, Almhawish N, **Tarnas MC**, AlFaruh Y, Erikson A. (2025). The early warning and response systems in Syria: A functionality and alert threshold assessment. *IJID Regions*. doi:[10.1016/j.ijregi.2024.100563](https://doi.org/10.1016/j.ijregi.2024.100563)
 16. **Tarnas MC**, Hamze M, Tajaldin B, Sullivan R, Parker DM, Abbara A. (2024). Exploring relationships between conflict intensity, forced displacement, and healthcare attacks: a retrospective analysis from Syria, 2016 – 2022. *Conflict and Health*. doi:[10.1186/s13031-024-00630-4](https://doi.org/10.1186/s13031-024-00630-4)
 15. **Tarnas MC**, Abbara A, Desai AN, Parker DM. (2024). Ecological study measuring the association between conflict, environmental factors, and annual global cutaneous and mucocutaneous leishmaniasis incidence (2005 – 2022). *PLOS Neglected Tropical Diseases*. doi:[10.1371/journal.pntd.0012549](https://doi.org/10.1371/journal.pntd.0012549)
 14. Kampalath V, **Tarnas MC**, Patel V, Hamze M, Loutfi R, Tajaldin B, Albik A, Kassas A, Khashata A, Abbara A. (2024). An analysis of paediatric clinical presentations in northwest Syria and the effect of forced displacement, 2018 – 2022. *Global Epidemiology*. doi:[10.1016/j.gloepi.2024.100146](https://doi.org/10.1016/j.gloepi.2024.100146)
 13. **Tarnas MC**, Al Dheeb N, Zaman MH, Parker DM. (2023). Association between air raids and reported incidence of cholera in Yemen, 2016 – 19: An ecological modelling study. *The Lancet Global Health*. doi:[10.1016/S2214-109X\(23\)00272-3](https://doi.org/10.1016/S2214-109X(23)00272-3)
 12. Hmaideh A*, **Tarnas MC***, Zakaria W, Rifai AO, Ibrahim M, Hashoom Y, Ghazal N, Abbara A (2023). Geographical origin, WASH access, and clinical descriptions for patients admitted to a cholera treatment center in northwest Syria between October and December 2022. *Avicenna Journal of Medicine*. doi:[10.1055/s-0043-1776045](https://doi.org/10.1055/s-0043-1776045)
 11. **Tarnas MC**, Almhawish N, Karah N, Abbara A (2023). Communicable diseases in northwest Syria in the context of protracted armed conflict and earthquakes. *The Lancet Infectious Diseases*. doi:[10.1016/S1473-3099\(23\)00201-3](https://doi.org/10.1016/S1473-3099(23)00201-3)
 10. **Tarnas MC**, Karah N, Almhawish N, Aladhan I, Alobaid R, Abbara A (2023). Politicization of water, humanitarian response, and health in Syria as a contributor to the ongoing cholera outbreak. *International Journal of Infectious Diseases*. doi:[10.1016/j.ijid.2023.03.042](https://doi.org/10.1016/j.ijid.2023.03.042)
 9. Tabor R, Almhawish N, Aladhan I, **Tarnas M**, Sullivan R, Karah N, Zeitoun M, Ratnayake R, Abbara A. (2023). Disruption to water supply and waterborne communicable diseases in northeast Syria: a spatiotemporal analysis. *Conflict and Health*. doi:[10.1186/s13031-023-00502-3](https://doi.org/10.1186/s13031-023-00502-3)
 8. **Tarnas MC**, Ching C, Lamb JB, Parker DM, Zaman MH. Analyzing health of forcibly displaced communities through an integrated ecological lens. (2023). *American Journal of Tropical Medicine and Hygiene*. doi:[10.4269/ajtmh.22-0624](https://doi.org/10.4269/ajtmh.22-0624)
 7. **Tarnas MC**, Desai AN, Parker DM, Almhawish N, Zakieh O, Rayes D, Whalen-Browne M, Abbara A. (2022) Syndromic surveillance of respiratory infections during protracted conflict: experiences from northern Syria 2016-2021. *International Journal of Infectious Diseases*. doi:[10.1016/j.ijid.2023.03.042](https://doi.org/10.1016/j.ijid.2023.03.042)
 6. Simpson RB, Babool S, **Tarnas MC**, Kaminski PM, Boyd EM, Hartwick MA, Naumova EN. (2022). Dynamic mapping of cholera spread during the Yemeni Civil War, 2016-2019. *Journal of Public Health Policy*. doi:[10.1057/s41271-022-00345-x](https://doi.org/10.1057/s41271-022-00345-x)

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5. Simpson RB, Lauren BN, Schipper KH, McCann JC, **Tarnas MC**, Naumova EN. (2022). Critical periods, critical time points and day-of-the-week effects in COVID-19 surveillance data: An example in Middlesex County, Massachusetts, USA. *International Journal of Environmental Research and Public Health*. doi:[10.3390/ijerph19031321](https://doi.org/10.3390/ijerph19031321)
4. Simpson RB, Babool S, **Tarnas MC**, Kaminski PM, Hartwick MA, Naumova EN. (2022). Signatures of cholera outbreak during the Yemeni Civil War, 2016-2019. *International Journal of Environmental Research and Public Health*. doi:[10.3390/ijerph19010378](https://doi.org/10.3390/ijerph19010378)
3. Sanchez E, Gelfand AR, Perkins MD, **Tarnas MC**, Simpson RB, McGee JA, Naumova EN. (2021). Providing food and nutrition services during the COVID-19 surge at the Javits New York Medical Station. *International Journal of Environmental Research and Public Health*. doi:[10.3390/ijerph18147430](https://doi.org/10.3390/ijerph18147430)
2. Abbara A, Zakieh O, Rayes D, Collin SM, Almhawish N, Sullivan R, Aladhan I, **Tarnas M**, Whalen-Browne M, Omar M, Tarakji A, Karah N. (2021). Weaponizing water as an instrument of war in Syria: Impact on diarrhoeal disease in Idlib and Aleppo governorates, 2011-2019. *International Journal of Infectious Diseases*. doi:[10.1016/j.ijid.2021.05.030](https://doi.org/10.1016/j.ijid.2021.05.030)
1. **Tarnas MC**, Desai A, Lassmann B, Abbara A. (2020). Increase in vector-borne disease reporting affecting humans and animals in Syria and neighboring countries before and after the onset of conflict: a ProMED analysis 2003-2018. *International Journal of Infectious Diseases* (2020). doi:[10.1016/j.ijid.2020.09.1453](https://doi.org/10.1016/j.ijid.2020.09.1453)

Reports

1. Zeitoun M, **Tarnas MC**, Abbara A, Desai D, Zaman M, al Sheikh R, Messaoudi I, Carmi N, Kebebew T, Pellaton C, Tignino M, Mhwaish N, Abu Sittah, G (2024). Fully Foreseeable: The reverberating effects of war on water and health in Gaza. Report by the Geneva Water Hub. ISBN: [978-2-9701504-4-2](https://doi.org/978-2-9701504-4-2)

Under Review

1. **Tarnas MC**, Vasylyeva TI, Minin VM, Parker DM. Nighttime lights as a viable tool or measuring armed conflict in Yemen and Ukraine. Under review in *Scientific Reports*.

Funding

2025	National Institute of Allergy and Infectious Diseases . Principal Investigator. National Research Service Award Predoctoral Individual Fellowship: F31AI183632 (\$93,080)
2024	H&H Lee Charitable Foundation . Scholarship (\$5,000)
2024	UC Irvine . Conference Travel Fellowship (\$1,000)
2023	UC Irvine . Conference Travel Fellowship (\$1,000)
2022	Summer Institute in Statistics and Modeling of Infectious Diseases . Scholarship (\$900)
2017	BA Women's Alliance . Undergraduate Public Service Scholar Grant (\$3,000)
2017	Tufts University . Career Center Grant (\$3,500)
2013	United States Department of State . National Security Language Initiative for Youth Scholarship. Placement in Amman, Jordan, for 8-week intensive Arabic study (Full tuition, travel costs, and stipend coverage)

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Presentations

Invited Talks

- 2025** *Looking at marginalized populations: Seeing the populations we keep outside the room.* Session: Systemic issues in how health and science research are conducted in vulnerable populations. European Congress on Tropical Medicine and International Health; Hamburg, Germany
- 2023** *Impact of conflict on rising global cutaneous and mucocutaneous leishmaniasis incidence.* Joint International Tropical Medicine Meeting; virtual
- Conflict, climate change, and infectious diseases.* UC Global Health Institute Annual Showcase; virtual
- 2022** *Conflict and cholera: quantifying the impact of air raids on Yemen's cholera incidence.* Joint International Tropical Medicine Meeting; virtual

Organization and Participation

- 2025** **Panelist;** *Infectious Diseases Outbreaks in Syria: An Expert Update.* Panel organized by the Syria Public Health Network and Mentor Initiative; virtual
- Presenter and Trainer;** *QGIS Training Workshop.* Training organized by the Learning Initiative for Global Health Today; UC Irvine
- 2024** **Organizer;** *Reimagining Health and Healthcare Access in Refugee Camps.* Workshop organized by American University in Cairo, UC Irvine, and Boston University Center on Forced Displacement; Cairo, Egypt
- 2023** **Rapporteur;** *Addressing Challenges of Forced Displacement through STEM Education.* Workshop organized by Boston University Center on Forced Displacement and the National Academies' Committee on Human Rights; Boston, MA
- 2022** **Moderator;** *Time Series Analyses: Methods and Applications.* Research and Data Symposium for Food and Nutrition, Tufts Friedman School of Nutrition Science and Policy; virtual

Conference Presentations (* indicates presenter[s])

- 2025** Carew JW, **Tarnas MC**, Almhawish N, Alzouabi N, Aladhan I, Abbara A. *Lower rainfall, higher temperature range, decreased surface vegetation, and higher humidity may increase the likelihood of cutaneous leishmaniasis incidence in northern Syria.* European Congress on Tropical Medicine and International Health; Hamburg, Germany (Poster)
- Tarnas MC***, Hamze M, Tajaldin B, Sullivan R, Parker DM, Abbara A. *Exploring relationships between conflict intensity, forced displacement, and healthcare attacks: a retrospective analysis from Syria.* Consortium of Universities for Global Health Conference; Atlanta, Georgia, USA (Poster)
- 2024** **Tarnas MC***, Vasylyeva TI, Minin VM, Parker DM. *Nighttime lights for measuring conflict: Case studies in Yemen and Ukraine.* Session on: Tracking the Footprint of War: Earth and Environmental Science Perspectives on Monitoring Conflict Impacts. American Geophysical Union 2024; Washington, DC, USA (Poster)

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Carew J*, **Tarnas MC**, Almhawish N, Alzouabi N, Aladhan I, Abbara A. *Modeling climate drivers of cutaneous leishmaniasis incidence in northern Syria*. American Society of Tropical Medicine and Hygiene; New Orleans, LA, USA (Poster)

Tarnas MC*, Almhawish N, Aladhan I, Tador R, Ratnayake R, Abbara A. *A spatiotemporal analysis of water, sanitation, and hygiene disruption and waterborne diseases in northern Syria*. Global Health Security Conference; Sydney, Australia (Oral)

Tarnas MC*, Abbara A, Desai AN, Parker DM. *Conflict and the environment: Associations with the global increase in cutaneous and mucocutaneous leishmaniasis*. Global Health Security Conference; Sydney, Australia (Poster)

Kampalath V, **Tarnas MC**, Patel V, Hamze M*, Albik A, Kassas MA, Loutfi R, Abbara A. *Associations between armed conflict and paediatric healthcare consultations in northwest Syria*. Research for Health in the Syrian Conflict Annual Conference; London, UK (Oral)

Kampalath V, **Tarnas MC**, Patel V*, Hamze M, Albik A, Kassas MA, Loutfi R, Abbara A. *The impact of armed conflict on paediatric healthcare consultations in northwest Syria*. Royal College of Paediatrics and Child Health Conference; Birmingham, UK (Poster)

Tarnas MC*, Abbara A, Desai AN, Parker DM. *Associations between reported leishmaniasis incidence, conflict intensity, and environmental factors, 2005 - 2020*. Consortium of Universities for Global Health Conference; Los Angeles, CA, USA (Poster)

Lazieh SM, **Tarnas MC***, Wagner K, Alkhatib I, Polinori C, Netfagi M, Qaddour S, Zuhaili B*, Burnham G. *Post-operative care in conflict-affected northwest Syria: Healthcare worker attitudes and patients' perceptions of surgical complications*. Consortium of Universities for Global Health Conference; Los Angeles, CA, USA (Poster)

Kampalath V, **Tarnas MC**, Patel V*, Hamze M, Albik A, Kassas MA, Loutfi R, Abbara A. *Exploring the impact of armed conflict on paediatric healthcare consultations in northwest Syria*. Consortium of Universities for Global Health Conference; Los Angeles, CA, USA (Poster)

2023

Ching C, **Tarnas MC**, Parker DM, Zaman MH*. *Infectious disease research in displaced communities: Evaluating ethics, inclusion, and engagement*. Humanitarian and Conflict Response Institute Conference on Medical Humanitarianism and Global Health; Manchester, UK (Oral)

Patel V*, Kampalath V, **Tarnas MC**, Hamze M, Albik A, Kassas MA, Loutfi R, Abbara A. *Armed conflict and pediatric services: Humanitarian data analysis in Northwest Syria*. Humanitarian and Conflict Response Institute Conference on Medical Humanitarianism and Global Health; Manchester, UK (Oral)

Hmeideh A*, **Tarnas M**, Rifai AO, Zacharia W, Ibrahim M, Hashoom Y, Ghazal N, Abbara A. *Geographical origin, WASH access and clinical descriptions for patients admitted to a cholera treatment center in northwest Syria between October and December 2022*. Emergency Environmental Health Forum; virtual. (Oral)

Tarnas MC*, Al Dheeb N, Zaman MH, Parker DM. *Impact of air raids on the reported incidence of cholera in Yemen, 2016-2019*. Consortium of Universities for Global Health Conference; Washington, DC, USA (Poster)

Ahmad M*, Hamze M, Akhter W, Socarras A, **Tarnas M**, Tajaldin B, Albaik A, Loutfi R, Abbara, A. *Service utilisation trends during conflict: A focus on non-communicable*

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diseases in northwest Syria. Consortium of Universities for Global Health Conference; Washington, DC, USA (Poster)

Tarnas MC*, Ching C, Lamb LB, Parker DM, Zaman MH. *Analyzing health of forcibly displaced communities through an integrated ecological lens*. Session on: Displacement Ecologies 1: Rethinking the displacement-environment nexus. American Association of Geographers; Denver, CO, USA (Oral).

2021

Schipper KH, Larson AL, Simpson RB, Bell CH, McCann JC, Zhou B, **Tarnas MC**, Naumova EN. *Dynamic mapping of COVID-19 cases in the United States*. Epidemics 8 International Conference on Infectious Disease Dynamics; virtual (Poster)

Simpson RB, McCann JC, El-Abbadi NH, **Tarnas MC**, Ronan AB, Bell CH, Wang H, Yang M, Pei X, Fan Z, Chui KKH, Nguyen KH, Naumova, EN. *Investigation of COVID-19 vaccination status and hesitancy in the United States using the Household Pulse Survey (HPS) in January – May 2021*. Epidemics 8 International Conference on Infectious Disease Dynamics; virtual (Poster)

Schipper KH, Lauren B, Simpson RB, Larson AL, Bell CH, McCann JC, **Tarnas MC**, Naumova EN. *Investigation of public health interventions on COVID-19 health outcomes in Middlesex County, Massachusetts, USA*. Epidemics 8 International Conference on Infectious Disease Dynamics; virtual (Poster)

El-Abbadi N, Simpson RB, **Tarnas MC**, Ronan AB, Fan Z, Yang M, Pei X, McCann JC, Bell CH, Wang H, Chui KKH, Nguyen KH, Naumova EN. *Evaluating food insecurity throughout the COVID-19 pandemic in the United States*. NIH's Food Insecurity, Neighborhood Food Environment, and Nutrition Health Disparities: State of the Science; virtual (Poster)

Sanchez E, Gelfand AR, Perkins MD, **Tarnas MC**, Simpson RB, McGee JA, Naumova EN. *Providing food and nutrition operations during COVID-19: Lessons learned from the Javits New York Medical Station*. Military Health System Research Symposium; conference canceled due to COVID-19 (Poster)

2020

Tarnas M, Lassmann B, Desai A, Abbara A. *Impact of the Syrian conflict on vector-borne disease trends in Syria and neighboring countries: A One Health ProMED analysis between 2003 to 2018*. 19th International Congress on Infectious Diseases; canceled due to COVID-19 (Poster)

Tarnas M, Babool S, Simpson RB, Kaminski PM, Naumova EN. *Risks of cholera transmission amplified by the war conflicts in Yemen, 2016-2018*. Consortium of Universities for Global Health Conference; canceled due to COVID-19; (Poster)

Babool S, **Tarnas M**, Simpson RB, Kaminski PM, Naumova EN. *Understanding of the cholera outbreak patterns in Yemen's governorates during the civil war, 2016-2018*. Consortium of Universities for Global Health Conference; canceled due to COVID-19 (Poster)

Simpson RB, **Tarnas M**, Babool S, Kaminski PM, Venkat A, Naumova EN. *Intentionally broken barriers and cascading risk of cholera spread in Yemen, 2016-2018*. Consortium of Universities for Global Health Conference; canceled due to COVID-19 (Poster)

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Teaching Experience

Associate Instructor – UC Irvine

Qtr/Year	Course	Level	Modality	Enrollment
Summer 2025	Introduction to Global Health	Undergraduate	Online	127
Summer 2024	Introduction to Global Health	Undergraduate	Online	109

Teaching Assistant – UC Irvine

Qtr/Year	Course	Level	Modality	Enrollment
Fall 2024	Practicum in Public Health	Undergraduate	In-person	83
Winter 2023	Intermediate Epidemiology	Graduate	In-person	47
Fall 2022	Infectious Disease Dynamics	Undergraduate	In-person	121
Spring 2022	Practicum in Public Health	Undergraduate	In-person	131
Winter 2022	Practicum in Public Health	Undergraduate	Online	118
Fall 2021	Practicum in Public Health	Undergraduate	Online	139

Teaching Assistant – Tufts University

Sem/Year	Course	Level	Modality
Fall 2019	Introduction to Global Health	Undergraduate	In-person
Spring 2020	Introduction to Global Health	Undergraduate	In-person

Honors and Awards

2019	Phi Beta Kappa, Tufts University
2019	Highest Thesis Honors, Tufts University
2019	Tisch Undergraduate Research Award, Tufts University
2018	Janice Calkin Community Health Award, Tufts University

Contributions to Media

Sep 2025: Interviewed by B. Perlman and J. Yang for *The Washington Post* about the effects of conflict on Yemen's cholera outbreaks: ["Yemen health crisis spikes after aid cuts and U.S., Israeli airstrikes"](#)

Service

University

2024 – 25	Advisory Committee Member, UC Irvine Global Health Crisis Fellowship
2023 – 24	Mentor, Tufts University Community Health Alumni Mentoring Program
2022	Faculty Search Committee Student Liaison, UC Irvine
2021 – 23	Student Ambassador, Planetary Health Center of Expertise, University of California Global Health Institute
2021 – 23	Mentor, Global Health Research, Education, and Translation Program, UC Irvine

Community

2019 – 21	Boston Medical Reserve Corps Member, COVID-19 Response Force
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2018 – 19

Application Review Committee Member, BA Women's Alliance

Manuscript Review for Peer-Reviewed Journals

American Journal of Public Health, Antimicrobial Resistance & Infection Control, Avicenna Journal of Medicine, BMC Health Services, BMC Medical Education, BMC Public Health, BMC Veterinary Research, BMJ Open, BMJ Public Health, Conflict and Health, Discover Environment, Discover Health Systems, Discover Psychology, Discover Public Health, Future Microbiology, Health Services Insights, Heliyon, IJS Global Health, Infection Ecology & Epidemiology, JMIR Public Health and Surveillance, Journal of Infection, Malaria Journal, Medicine Conflict and Survival, Nature Medicine, npj Natural Hazards, PLOS Global Public Health, PLOS Neglected Tropical Diseases, Population Health Metrics, Science, Scientific Reports, The Lancet Infectious Diseases, Tropical Medicine and Health

Professional Affiliations

American Geophysical Union (AGU), Consortium of Universities for Global Health

Skills

Languages: Arabic, Spanish

Skills: R, Python, JavaScript, SAS, QGIS, ArcGIS, Google Earth Engine