

Amanda C. Perofsky, Ph.D.

Brotman Baty Institute for Precision Medicine, University of Washington, Seattle, Washington
Fogarty International Center, National Institutes of Health, Bethesda, Maryland
Email: amanda.perofsky@nih.gov • Website: <https://aperofsky.github.io>

Education

- 2018 **PhD** in Ecology, Evolution, and Behavior, The University of Texas at Austin, Austin, Texas
Advisor: Lauren Ancel Meyers
- 2009 **B.Sc.** in Ecology, **B.Sc.** in Biology, University of Georgia, Athens, Georgia
Summa cum laude with Highest Honors

Research Positions

- 2021 – present **Research Scientist**, Seattle Flu Alliance, Brotman Baty Institute for Precision Medicine, University of Washington
Guest Researcher, Fogarty International Center, National Institutes of Health
Supervisor: Cécile Viboud
- 2018 – 2021 **Postdoctoral Research Fellow**, Fogarty International Center, National Institutes of Health
Division of International Epidemiology and Population Studies
Supervisor: Cécile Viboud
- 2011 **Research Assistant**, Fogarty International Center, National Institutes of Health
Supervisor: Juliet R.C. Pulliam
- 2010 – 2011 **Post-Baccalaureate IRTA Fellow**, National Institute of Dental and Craniofacial Research, National Institutes of Health
Adeno-Associated Virus Biology Section, Molecular Physiology and Therapeutics Branch
Supervisor: John A. Chiorini
- 2009 **Research Assistant**, Odum School of Ecology, University of Georgia
Supervisor: Andrew Park

Research Funding

- 2023 - 2024 Epidemiology Lead, CDC Contract 75D30122C14368 (PIs: L. Starita, T. Bedford)
- 2021 - 2023 Key Personnel, Seattle Flu Study, Gates Ventures (PIs: T. Bedford, M. Boeckh, H. Chu, J. Englund, M. Famulare, T. Lockwood, B. Lutz, D. Nickerson, J. Shendure, L. Starita, M. Thompson, C. Viboud)
- 2018 Research Exchange Grant, National Science Foundation IDEAS RCN
- 2015 - 2018 Research Grant, NSF BEACON Center for the Study of Evolution in Action (Co-PI with L. Ancel Meyers and R. Lewis)
- 2015 - 2018 Dissertation Improvement Grant, Ecology, Evolution, and Behavior Graduate Program, UT-Austin
- 2012 Small Research Grant, American Society of Primatologists
- 2012 Small Research Grant, International Primatological Society
- 2011 - 2012 Startup Grant, Ecology, Evolution, and Behavior Graduate Program, UT-Austin
- 2008 NSF Research Experiences for Undergraduates (REU) Internship, NSF Coweeta Long Term Ecological Research Program, Otto, NC

Fellowships

- 2017, 2018 Graduate School Summer Semester Continuing Fellowship, The University of Texas at Austin
- 2013 – 2015 National Science Foundation Graduate Research Fellowship (awarded in 2012)
- 2011 Integrative Biology Graduate Recruitment Fellowship, The University of Texas at Austin
- 2010 – 2011 National Institutes of Health Post-baccalaureate Intramural Research Training Award (IRTA)

Scholarships and Awards

2020	Young Scientist Award, European Scientific Working group on Influenza (ESWI) Conference
2017	Network Modeling for Epidemics Course Fellowship, University of Washington, Seattle, WA
2017	Graduate Student Professional Development Award, College of Natural Sciences, UT-Austin
2014, 2015	Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID) Scholarship and Travel Award, University of Washington, Seattle, WA
2011	Meaningful Modeling of Epidemiological Data (MMED) Clinic Scholarship and Travel Award, African Institute for Mathematical Sciences (AIMS), Cape Town, South Africa
2011	Ecology and Evolution of Infectious Diseases (EEID) Conference Workshop Scholarship and Travel Award, University of California, Santa Barbara, CA
2010	Ecology and Evolution of Infectious Diseases (EEID) Conference Workshop Scholarship and Travel Award, Cornell University, Ithaca, NY
2009	Center for Undergraduate Research Opportunities (CURO) Scholar, University of Georgia
2008	Elected, Phi Beta Kappa Honors Society
2005 – 2009	Honors Program Charter Scholarship, University of Georgia
2005 – 2009	National Merit Scholarship
2005 – 2009	Georgia HOPE Scholarship
2005 – 2009	Georgia Governor's Scholarship

Manuscripts in revision

Mathis, S. M., Webber, A. E., León, T. M., . . . , **Perofsky, A. C.**, . . . Borchering, R. K. (110 authors) (2023). Evaluation of FluSight influenza forecasting in the 2021-22 and 2022-23 seasons with a new target laboratory-confirmed influenza hospitalizations. *medRxiv*, 2023.2012.2008.23299726. <https://doi.org/10.1101/2023.12.08.23299726>

In press

Perofsky, A. C., Hansen, C., Burstein, R., . . . Viboud, C. (2023). Human mobility impacts the transmission of common respiratory viruses: A modeling study of the Seattle metropolitan area. *medRxiv*, 2023.2010.2031.23297868. <https://doi.org/10.1101/2023.10.31.23297868> (Accepted at *Nature Communications*)

Publications

Paredes, M. I., **Perofsky, A. C.**, Frisbie, L., . . . Bedford, T. (2024). Local-scale phylodynamics reveal differential community impact of SARS-CoV-2 in a metropolitan US county. *PLOS Pathogens*, 20(3), e1012117. <https://doi.org/10.1371/journal.ppat.1012117>

Perofsky, A. C., Huddleston, J., Hansen, C., . . . Viboud, C. (2024). Antigenic drift and subtype interference shape A(H3N2) epidemic dynamics in the United States. *Elife*, 13, RP91849. <https://doi.org/10.1101/2023.10.02.23296453>

Perofsky, A. C., Tempia, S., Bingham, J., Maslo, C., Toubkin, M., Laubscher, A., Walaza, S., Pulliam, J. R. C., Viboud, C., & Cohen, C. (2022). Direct and Indirect Effects of the Coronavirus Disease 2019 Pandemic on Private Healthcare Utilization in South Africa, March 2020-September 2021. *Clinical Infectious Diseases*, 75(1), e1000-e1010. <https://doi.org/10.1093/cid/ciac055>

Hansen, C., **Perofsky, A. C.**, Burstein, R., . . . Viboud, C. (2022). Trends in Risk Factors and Symptoms Associated With SARS-CoV-2 and Rhinovirus Test Positivity in King County, Washington, June 2020 to July 2022. *JAMA Network Open*, 5(12), e2245861. <https://doi.org/10.1001/jamanetworkopen.2022.45861>

Perofsky, A. C., Ancel Meyers, L., Abondano, L. A., Di Fiore, A., & Lewis, R. J. (2021). Social groups constrain the spatiotemporal dynamics of wild sifaka gut microbiomes. *Molecular Ecology*, 30(24), 6759-6775. <https://doi.org/10.1111/mec.16193>

McBride, D. S.†, **Perofsky, A. C.**†, Nolting, J. M., Nelson, M. I., & Bowman, A. S. (2021). Tracing the Source of Influenza A Virus Zoonoses in Interconnected Circuits of Swine Exhibitions. *Journal of Infectious Diseases*, 224(3), 458-468. <https://doi.org/10.1093/infdis/jiab122> †**Co-first authors**

Viboud, C., Gostic, K., Nelson, M. I., Price, G. E., **Perofsky, A.**, Sun, K., Sequeira Trovao, N., Cowling, B. J., Epstein, S. L., & Spiro, D. J. (2020). Beyond clinical trials: Evolutionary and epidemiological considerations for development of a universal influenza vaccine. *PLOS Pathogens*, 16(9), e1008583. <https://doi.org/10.1371/journal.ppat.1008583>

Perofsky, A. C., & Nelson, M. I. (2020). Seasonal influenza: The challenges of vaccine strain selection. *Elife*, 9, e62955. <https://doi.org/10.7554/eLife.62955>

Nelson, M. I., **Perofsky, A.**, McBride, D. S., Rambo-Martin, B. L., Wilson, M. M., Barnes, J. R., van Bakel, H., Khan, Z., Dutta, J., Nolting, J. M., & Bowman, A. S. (2020). A Heterogeneous Swine Show Circuit Drives Zoonotic Transmission of Influenza A Viruses in the United States. *Journal of Virology*, 94(24). <https://doi.org/10.1128/JVI.01453-20>

Perofsky, A. C., Lewis, R. J., & Meyers, L. A. (2019). Terrestriality and bacterial transfer: a comparative study of gut microbiomes in sympatric Malagasy mammals. *The ISME Journal*, 13(1), 50-63. <https://doi.org/10.1038/s41396-018-0251-5>

Rakotomalala, E. J., Rakotondraparany, F., **Perofsky, A. C.**, & Lewis, R. J. (2017). Characterization of the Tree Holes Used by *Lepilemur ruficaudatus* in the Dry, Deciduous Forest of Kirindy Mitea National Park. *Folia Primatologica*, 88(1), 28-41. <https://doi.org/https://doi.org/10.1159/000464406>

Perofsky, A. C., Lewis, R. J., Abondano, L. A., Di Fiore, A., & Meyers, L. A. (2017). Hierarchical social networks shape gut microbial composition in wild Verreaux's sifaka. *Proceedings of the Royal Society B*, 284(1868). <https://doi.org/10.1098/rspb.2017.2274>

Berry, B. S., Magori, K., **Perofsky, A. C.**, Stallknecht, D. E., & Park, A. W. (2013). Wetland cover dynamics drive hemorrhagic disease patterns in white-tailed deer in the United States. *Journal of Wildlife Diseases*, 49(3), 501-509. <https://doi.org/10.7589/2012-11-283>

Conferences

Oral presentations

- 2024 NetSci International Conference on Network Science, Quebec City, Canada (upcoming, June 2024)
- 2023 Epidemics⁹ International Conference on Infectious Disease Dynamics, Bologna, Italy
- 2023 EpiMob Satellite (“Epidemic control: from mobility data to public health”), NetSci International Conference on Network Science, Vienna, Austria [**Invited keynote speaker**]
- 2022 NIH/FDA COVID-19 Research Workshop (online)
- 2022 Options XI for the Control of Influenza, Belfast, Northern Ireland
- 2022 NIH Modeling of Infectious Disease Agent Study (MIDAS) Annual Meeting, Bethesda, MD
- 2021 NIH Modeling of Infectious Disease Agent Study (MIDAS) Annual Meeting (online)
- 2021 NIH Centers of Excellence for Influenza Research and Surveillance (CEIRS) Annual Meeting (online)
- 2020 NIH/FDA COVID-19 Research Workshop (online)
- 2019 Epidemics⁷ International Conference on Infectious Disease Dynamics, Charleston, SC
- 2019 Options X for the Control of Influenza, Singapore
- 2018 American Association of Physical Anthropologists (AAPA) Conference, Austin, TX
- 2016 NSF BEACON Annual Congress, Michigan State University, East Lansing, MI

Poster presentations

- 2022 Options XI for the Control of Influenza, Belfast, Northern Ireland
- 2020 European Scientific Working group on Influenza (ESWI) Conference (online)
- 2019 Ecology and Evolution of Infectious Diseases (EEID) Conference, Princeton, NJ
- 2017 Society of Molecular Biology and Evolution (SMBE) Conference, Austin, TX
- 2017 Ecology and Evolution of Infectious Diseases (EEID) Conference, Isla Vista, CA
- 2015 Epidemics⁵ International Conference on Infectious Disease Dynamics, Clearwater Beach, FL

Invited Seminars

- 2023 US CDC Technical Outreach and Assistance to States (TOAST) Office Hours (online), December
- 2023 Pierre Louis Institute of Epidemiology and Public Health (IPLESP), French National Institute of Health and Medical Research (INSERM), Paris, France, November
- 2023 Infectious Disease Modeling Working Group, World Health Organization (online), October
- 2023 Respiratory Virus Interest Group, National Institutes of Health (online), October
- 2023 California Department of Public Health COVID-19 Modeling Team CalCAT Open House (online), May

- 2023 NIH NIAID Centers of Excellence for Influenza Research and Response (CEIRR) Computational Modeling Core (online), April
- 2023 Infectious Disease Forecasting Call, US CDC (online), March
- 2023 Center for the Ecology of Infectious Diseases, University of Georgia (online), January
- 2021 Influenza Research Group, National Animal Disease Center, USDA (online), March
- 2019 Influenza Interest Group, National Institutes of Health, Bethesda, MD, January
- 2018 Fogarty International Center, National Institutes of Health, Bethesda, MD, April
- 2017 NSF BEACON weekly seminar series (online), November
- 2017 Bansal Research Group, Georgetown University, Washington, DC, June
- 2016 NSF BEACON weekly seminar series (online), August
- 2016 Kirindy Mitea National Park headquarters, Belo Sur Mer, Madagascar, July
- 2012 Kirindy Mitea National Park headquarters, Morondava, Madagascar, August

Infectious Disease Forecasting and COVID-19 Pandemic Response

- 2023 – present Dashboard of SARS-CoV-2 variant forecasts for Washington and other US states, Seattle Flu Alliance, <https://seattleflu.org/sars-cov-2-forecasts> (In collaboration with Nextstrain team)
- 2022 – present Contributor to the CDC FluSight Forecasting Collaboration. Submitted weekly short-term forecasts of influenza hospitalizations in the United States during 2022-23 and 2023-24 seasons.
- 2022 – present Contributor to the Influenza Scenario Modeling Hub. Submitted long-term projections of influenza hospitalizations in the United States during 2022-23 and 2023-24 seasons.
- 2020 – 2022 Developed the analysis, drafted the first report, and provided technical support to South Africa’s National Institute for Communicable Diseases for their COVID-19 Private Consultations Excess Respiratory Encounters Report. Reports were updated on a bi-weekly or monthly basis.
- 2019 – 2022 Contributor to the US Department of Defense Forecasting Collaboration. Submitted weekly short-term forecasts of influenza-like illness and COVID-like illness cases on US military bases during the 2019-20, 2020-21, and 2021-22 seasons.

Professional Activities

- 2024 Co-organizer, EpiMob Satellite (“Epidemic control: from mobility data to public health”), NetSci International Conference on Network Science, Quebec City, Canada (upcoming, June 2024)
- 2023 Working group on the use of human mobility data in infectious disease modeling, organized by the Johns Hopkins Bloomberg School of Public Health
- 2022 Invited panelist, “Reflections on COVID-19”, NIH MIDAS Annual Meeting, Bethesda, MD
- 2020 Poster Judge, NIH Annual Graduate Student Research Symposium, Bethesda, MD
- 2019 – 2021 Essay editor for “Science Policy for All” (science policy blog with contributors from the Washington, DC area)
- 2017 Invited Panelist, NSF BEACON Public Engagement Workshop, Austin, TX

Ad-hoc reviewer: *American Journal of Epidemiology*, *American Journal of Primatology*, *Animal Behaviour*, *BMJ Global Health*, *Ecology and Evolution*, *Epidemics*, *International Journal of Primatology*, *The ISME Journal*, *Molecular Ecology*, *Nature Communications*, *Nature Physics*, *PLOS Computational Biology*, *PLOS Global Health*, *PNAS Nexus*

Teaching Experience

- Co-Instructor, Complexity 72h: Interdisciplinary workshop for young researchers in complex systems, Carlos III University of Madrid, Spain (upcoming, June 2024)
- Co-Instructor, Fogarty International Center-DIVERGE Training Workshop on RSV Genomics and Evolution, National Institutes of Health, Bethesda, MD. September 2019
- Co-Instructor, Fogarty International Center-NICD Training Workshop on Infectious Disease Dynamics and Evolution, National Institutes of Communicable Diseases, Johannesburg, South Africa. December 2018

Graduate Teaching Assistant, Scientific Inquiry Across Disciplines, UT-Austin, Austin, TX. Fall 2016, Fall 2017

Guest Lecture (“Biological Networks and Social Network Analysis”), Introduction to Biological Statistics Course, Center for Computational Biology and Bioinformatics, UT-Austin, Austin, TX. November 2015

Guest Lecture (“Introduction to Networks”), Introduction to Biological Statistics Course, Center for Computational Biology and Bioinformatics, UT-Austin, Austin, TX. November 2014

Graduate Teaching Assistant, Social Networks and Infectious Diseases, UT-Austin, Austin, TX. Spring 2013

Science Communication and Outreach

2021 “Science Policy for All” blogpost: “Can the United States achieve herd immunity? Vaccine mandates and other policies to increase COVID-19 vaccination”

2020 “Science Policy for All” blogpost: “The Use of COVID-19 Prediction Models in Guiding Policy Decisions”

2019 – 2021 Member, National Institutes of Health Science Policy Discussion Group, Bethesda, MD. The NIH SPDG is a fellow-led and run self-governing organization that brings together fellows with a shared passion for understanding the intersection of scientific research and legislative policy.

2018 American Association for the Advancement of Science (AAAS) Classroom Science Days selected speaker, Austin, TX. Outreach lecture (“Meet the Lemurs”) to middle school students.

2016 Public outreach lecture (“Meet the Lemurs”), Science Under the Stars, Austin, TX

2016 NSF BEACON “Researchers at Work” essay: “How lemur social networks shape microbial transmission”

2011 – 2018 Radio DJ and Science Talk Show Host, KVRX 91.7FM, UT-Austin, Austin, TX. Co-organizer and co-host of “They Blinded Me with Science,” a weekly educational talk show that interviewed both UT-based and visiting researchers and reviewed current science publications and news. Recruited guests, conducted interviews, and produced podcasts.

2011 – 2017 Co-organizer and Volunteer, Science Under the Stars, Austin, TX. Helped coordinate and promote a free monthly lecture series held at UT’s field laboratory that provides graduate students an opportunity to communicate ecological research to the greater public.