Michael G. Famulare
Curriculum Vitae

Institute for Disease Modeling
Global Health | Bill & Melinda Gates Foundation
500 5th Ave N
Seattle, WA 98109
Mike.Famulare"at"gatesfoundation.org

Google Scholar
Pubmed
github.com/famulare
Twitter: @famulare_mike
LinkedIn

Employment

Institute for Disease Modeling | Bill & Melinda Gates Foundation Seattle, WA
Senior Research Manager Jul 2020 – Present

Institute for Disease Modeling | Global Good | Intellectual Ventures Bellevue, WA
Principal Research Scientist, co-chair of Epidemiology Jan 2019 – Jul 2020
Senior Research Scientist Jan 2016 – Dec 2018
Research Scientist May 2012 – Dec 2015

Education

University of Washington Seattle, WA
Ph.D. in Physics May 2012
Thesis title: Probabilistic Neural Coding from Deterministic Neural Dynamics—mathematics and biophysics of adaptive single neuron computation.

New York University New York, NY
B.S. in Physics Education May 2004

Professional Service

COVID-19 advisor to Washington State Department of Health and Gov. Inslee
DOH Modeling Group & Weekly DOH-IDM Modeling Briefing Apr 2020 – Jul 2021

SCAN: the greater Seattle Coronavirus Assessment Network
co-PI at-home COVID-19 community testing program Mar 2020 – Jul 2021

Global Polio Eradication Initiative
nOPV2 Working Group: clinical/pilot studies sub-group Jan 2020 – Mar 2020
Post-Cessation Polio Outbreak Strategic Simulation Exercise Sep 2018
Cessation Risk Task Team (CRTT) Jul 2016 – Mar 2020

Reviewer 2015 – Present
American Journal of Epidemiology (AJE), Biomedical and Environmental Sciences, Clinical Microbiology and Infection, Cochrane Review (CDPLP), Journal of the Pediatric Infectious Diseases Society, PLOS Computational Biology, PLOS One, PLOS Pathogens, Proceedings of the National Academy of Sciences (PNAS), Science, Society for Modeling and Simulation International, Wellcome Trust

IDM Symposium
Session organizer: Evolutionary Epidemiology Apr 2018
Session organizer: Surveillance Apr 2016

SIAM LS10 Minisymposium
Understanding the Link Between Neuronal Dynamics and Computation — Jul 2010

University of Washington Department of Physics
12X Labs Subcommittee — Jun 2009 - Jun 2010

Professional Development

Harvard Extension School — Cambridge, MA
Managing Yourself and Leading Others — June 2019
Leading More Effective Teams — June 2019

Summer Institute in Statistics and Modeling in Infectious Diseases — Seattle, WA
Evaluating Immune Correlates of Protection — July 2014
Evolutionary Dynamics and Molecular Epidemiology of Viruses — July 2012
Stochastic Epidemic Models with Inference — July 2012
MCMC1 for Infectious Diseases — July 2012
Contact Network Epidemiology — July 2012

Kavli Institute for Theoretical Physics — Santa Barbara, CA
Emerging Techniques in Neuroscience — Sep 2010 – Nov 2010

Marine Biological Laboratory — Woods Hole, MA
Methods in Computational Neuroscience — Aug 2009

Preprints

For most recent, see my medrXiv author search.

[6] Thakkar N and **Famulare M**. COVID-19 epidemiology as emergent behavior on a dynamic transmission forest. *arXiv* 2205.02150. doi:10.48550/arXiv.2205.02150

[5] Burstein R, Althouse BM, Adler A, Akullian A, Brandstetter E, Cho S, Emanuels A, Fay K, Gamboa L, Han P, Huden K, Ilcisin M, Izzo M, Jackson ML, Kim AE, Kimball L, Lacombe K, Lee J, Logue JK, Rogers J, Chung E, Sibley TR, Van Raay K, Wenger E, Wolf CR, Boeckh M, Chu H, Duchin J, Rieder M, Shendure J, Starita LM, Viboud C, Bedford T, Englund JA, **Famulare M**. Interactions among 17 respiratory pathogens: a cross-sectional study using clinical and community surveillance data. *medrXiv* 2022.02.04.22270474. doi:10.1101/2021.05.31.21258018

[4] Cohen JA, Stuart RM, Rosenfeld K, Lyons H, White M, Kerr CC, Klein DJ, **Famulare M** (2021). Quantifying the role of naturally- and vaccine-derived neutralizing antibodies as a correlate of protection against COVID-19 variants. *medrXiv* 2021.05.31.21258018. doi:10.1101/2021.05.31.21258018

[3] Wong W, Gauld J, **Famulare M** (2020). From Vaccine to Pathogen: Modeling Sabin 2 Vaccine Virus Reversion and Evolutionary Epidemiology. *medRxiv* 11.02.20224634. doi:10.1101/2020.11.02.20224634

[2] Chao DL, Oron AP, Srikrishna D, **Famulare M** (2020). Modeling layered non-pharmaceutical interventions against SARS-CoV-2 in the United States with Corvid. *medrXiv* 2020.04.08.20058487. doi:10.1101/2020.04.08.20058487

[1] **Famulare M**, Fairhall A (2011). Adaptive probabilistic neural coding from deterministic spiking neurons: analysis from first principles. *arXiv* doi:10.48550/arXiv.1111.0097

Journal Articles

For most recent, see my Google Scholar page.

[31] Cohen JA, Stuart RM, Panovska-Griffiths J, Mudimu E, Abeysuriya RG, Kerr CC, **Famulare M**, Klein DJ (2023). The changing impact of vaccines in the COVID-19 pandemic. *Cell Reports* S2211-1247(23)00319-4. doi:10.1016/j.celrep.2023.112308

[30] Hansen C, Perofsky AC, Burstein R, **Famulare M**, Boyle S, Prentice R, Marshall C, McCormick BJJ, Reinhart D, Capodanno B, Truong M, Schwabe-Fry K, Kuchta K, Pfau B, Acker Z, Lee J, Sibley TR, McDermot E, Rodriguez-Salas L, Stone J, Gamboa L, Han PD, Duchin JS, Waghmare A, Englund JA, Shendure J, Bedford T, Chu HY, Starita LM, 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. doi:10.1001/jamanetworkopen.2022.45861

[29] Brouwer AF, Eisenberg MC, Shulman LM, **Famulare M**, Koopman JS, Kroiss SJ, Hindiyeh M, Manor Y, Grotto I, Eisenberg JNS (2022). The role of time-varying viral shedding in modelling environmental surveillance for public health: revisiting the 2013 poliovirus outbreak in Israel. *J Roy Soc Interface* 19:20220006. doi:10.1098/rsif.2022.0006

[28] Paredes MI, Lunn SM, **Famulare M**, Frisbie LA, Painter I, Burstein R, Roychoudhury P, Xie H, Bakhash SA, Perez R, Lukes M, Ellis S, Sathees S, Mathias PC, Greninger A, Starita LM, Frazar CD, Ryke E, Zhong W, Gamboa L, Threlkeld M, Lee J, Nickerson DA, Bates DL, Hartman ME, Haugen E, Nguyen TN, Richards JD, Rodriguez JL, Stamatoyannopoulos JA, Thorland E, Melly G, Dykema PE, MacKellar DC, Gray HK, Singh A, Peterson JM, Russel D, Torres LM, Lindquist S, Bedford T, Allen KJ, Oltean H (2021). Associations between SARS-CoV-2 variants and risk of COVID-19 hospitalization among confirmed cases in Washington State: a retrospective cohort study. *Clinical Infectious Diseases* ciac279. doi:10.1093/cid/ciac279

[27] **Famulare M**, Wong W, Haque R, Platts-Mills JA, Saha P, Aziz AB, Ahmed T, Islam MO, Uddin MJ, Bandyopadhyay AS, Yunus M, Zaman Q, Taniuchi M (2021). Multiscale model for forecasting Sabin 2 vaccine virus household and community transmission. *PLOS Computational Biology* 17(2):e1009690. doi:10.1371/journal.pcbi.1009690

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[25] Kerr CC, Stuart RM, Mistry D, Abeysuriya R, Rosenfeld K, Hart GR, Nuñez RC, Cohen JA, Selvaraj P, Hagedorn B, George L, Jastrzebski M, Izzo AS, Fowler G, Wagner A, Chang ST, Oron AP, Wenger EA, Panovska-Griffiths J, **Famulare M**, Klein DJ (2021). Covasim: an agent-based model of COVID-19 dynamics and interventions. *PLOS Computational Biology* 17(7):e1009149. doi:10.1371/journal.pcbi.1009149

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Gautom R, Melly G, Hiatt B, Dykema P, Adler A, Brandstetter E, Han PD, Fay K, Ilcisin M, Lacombe K, Sibley TR, Truong M, Wolf CR, Boeck M, Englund JA, **Famulare M**, Lutz BR, Rieder MJ, Thompson M, Duchin JS, Starita LM, Chu HY, Shendure J, Jerome KR, Lingquist S, Greninger AL, Nickerson DA, Bedford T (2021). *Science Translational Medicine* 13(595):eabf0202. doi:10.1126/scitranslmed.abf0202

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[7] **Famulare M**, Change S, Iber J, Zhao K, Adeniji JA, Bukbuk D, Baba M, Behrend M, Burns CC, and Oberste MS (2016). Sabin vaccine reversion in the field: a comprehensive analysis of Sabin-like poliovirus isolates in Nigeria. *Journal of Virology* 90(1):317–331. doi:10.1128/JVI.01532-15

[6] **Famulare M** (2015). Has wild poliovirus been eliminated from Nigeria? *PLOS One* 10(8):e0135765. doi:10.1371/journal.pone.0135765

[5] **Famulare M** and Hu H (2015). Extracting transmission networks from phylogeographic data for epidemic and endemic diseases: Ebola virus in Sierra Leone, 2009 H1N1 pandemic influenza and polio in Nigeria. *International Health* 7(2):130–138. doi:10.1093/inthealth/ihv031

[4] Mease RA, **Famulare M**, Gjorgjieva J, Moody WJ, and Fairhall AL (2013). Emergence of adaptive computation by single neurons in the developing cortex. *Journal of Neuroscience* 33(30):12154–12170. doi:10.1523/JNEUROSCI.3263-12.2013

[3] Goldwyn JH, Imennov NS, **Famulare M**, and Shea-Brown E (2011). On stochastic differential equation models for ion channel noise in Hodgkin-Huxley neurons. *Physical Review E* 83:041908. doi:10.1103/PhysRevE.83.041908

[2] **Famulare M**, Fairhall AL (2010). Feature selection in simple neurons: how coding depends on spiking dynamics. *Neural Computation* 22:581–598. doi:10.1162/neco.2009.02-09-956

[1] Lundstrom BN, **Famulare M**, Sorenson LB, Spain WJ, and Fairhall AL (2009). Sensitivity of firing rate to input fluctuations depends on time scale separation between fast and slow variables in single neurons. *J. Computational Neuroscience* 27(2):227–290. doi:10.1007/s10827-009-0142-x

Public Health Reports

[53] Singh G, Painter I, **Famulare M**, Thakkar N, Lavista Ferres JM, Etzioni R, Richardson B, Wasserman C (21 Jul 2021). WA Situation Report 37: COVID-19 transmission across Washington State. (doh.wa.gov)

[52] Singh G, Painter I, **Famulare M**, Thakkar N, Lavista Ferres JM, Etzioni R, Richardson B, Wasserman C (29 Jun 2021). WA Situation Report 36: COVID-19 transmission across Washington State. (doh.wa.gov)

[51] Singh G, Painter I, **Famulare M**, Thakkar N, Lavista Ferres JM, Etzioni R, Richardson B, Wasserman C (15 Jun 2021). WA Situation Report 35: COVID-19 transmission across Washington State. (doh.wa.gov)

[50] Singh G, Painter I, **Famulare M**, Thakkar N, Lavista Ferres JM, Etzioni R, Richardson B, Wasserman C (2 Jun 2021). WA Situation Report 34: COVID-19 transmission across Washington State. (doh.wa.gov)

[49] Singh G, Painter I, **Famulare M**, Thakkar N, Lavista Ferres JM, Etzioni R, Richardson B, Wasserman C (4 May 2021). WA Situation Report 33: COVID-19 transmission across Washington State. (doh.wa.gov)

[48] Singh G, Painter I, **Famulare M**, Thakkar N, Lavista Ferres JM, Etzioni R, Richardson B, Wasserman C (4 May 2021). WA Situation Report 32: COVID-19 transmission across Washington State. (doh.wa.gov)

[47] Singh G, Painter I, **Famulare M**, Thakkar N, Lavista Ferres JM, Etzioni R, Richardson B, Wasserman C (20 Apr 2021). WA Situation Report 31: COVID-19 transmission across Washington State. (doh.wa.gov)

[46] Singh G, Painter I, Thakkar N, **Famulare M**, Lavista Ferres JM, Etzioni R, Richardson B, Wasserman C (27 Jan 2021). WA Situation Report 25: COVID-19 transmission across Washington State. (doh.wa.gov)

[45] Nuñez RC, **Famulare M**, Seaman V, and Klein DJ (27 Jan 2021). In search of an effective NPI blend for COVID-19 control in rural environments: lessons learned from the early epidemic control measures in Yakima County, Washington. (covid.idmod.org)

[44] Burstein R, **Famulare M**, Thakkar N (19 Jan 2021). An intuitive heuristic for interpreting COVID-19 test positivity and cases per capita. (covid.idmod.org)

[43] Thakkar N, Burstein R, **Famulare M** (16 Dec 2020). Towards robust, real-time, high-resolution COVID-19 prevalence and incidence estimation. (covid.idmod.org)

[42] Painter I, Singh G, Lavista Ferres JM, Etzioni R, Richardson B, Thakkar N, Fowler G, **Famulare M**, Wasserman C (9 Dec 2020). WA Situation Report 22: COVID-19 transmission across Washington State. (doh.wa.gov)

[41] Painter I, Lavista Ferres JM, Etzioni R, Richardson B, Thakkar N, Fowler G, **Famulare M**, Wasserman C (25 Nov 2020). WA Situation Report 21: COVID-19 transmission across Washington State. (covid.idmod.org)

[40] Sashidhar D, Thakkar N, McCarthy K, **Famulare M**, Burstein B (24 Nov 2020). Survival rates among hospitalized COVID-19 patients in Washington State have improved. (covid.idmod.org)

[39] Painter I, Lavista Ferres JM, Etzioni R, Richardson B, Thakkar N, Fowler G, **Famulare M**, Wasserman C (10 Nov 2020). WA Situation Report 20: COVID-19 transmission across Washington State. (covid.idmod.org)

[38] Painter I, Lavista Ferres JM, Etzioni R, Richardson B, Thakkar N, Fowler G, **Famulare M**, Wasserman C (28 Oct 2020). WA Situation Report 19: COVID-19 transmission across Washington State. (covid.idmod.org)

[37] Painter I, Lavista Ferres JM, Etzioni R, Richardson B, Thakkar N, Fowler G, **Famulare M**, Wasserman C (14 Oct 2020). WA Situation Report 18: COVID-19 transmission across Washington State. (covid.idmod.org)

[36] Painter I, Lavista Ferres JM, Etzioni R, Richardson B, Thakkar N, Fowler G, **Famulare M**, Wasserman C (25 Sep 2020). WA Situation Report 17: COVID-19 transmission across Washington State. (covid.idmod.org)

[35] Painter I, Huynh GH, Lavista Ferres JM, Etzioni R, Richardson B, Thakkar N, **Famulare M** (18 Sep 2020). WA Situation Report 16: COVID-19 transmission across Washington State. (covid.idmod.org)

[34] Painter I, Huynh GH, Lavista Ferres JM, Etzioni R, Richardson B, Thakkar N, **Famulare M** (11 Sep 2020). WA Situation Report 15: COVID-19 transmission across Washington State. (covid.idmod.org)

[33] Hart G, **Famulare M** (10 Sep 2020). Alongside the ongoing transmission of COVID-19, common colds are on the rise in Seattle and King County. (publichealthinsider.com)

[32] Richardson BA, Thakkar N, Lavista Ferres JM, Huynh GH, Etzioni R, Painter I, **Famulare M** (28 Aug 2020). WA Situation Report 14: COVID-19 transmission across Washington State. (covid.idmod.org)

[31] Thakkar N, **Famulare M** (18 Aug 2020). One state, many outbreaks: a transmission modeling perspective on current COVID-19 trends in King, Pierce, and Yakima counties. (covid.idmod.org)

[30] Etzioni R, Richardson B, Lavista Ferres JM, Thakkar N, Huynh GH, Painter I, **Famulare M** (14 Aug 2020). WA Situation Report 13: COVID-19 transmission across Washington State. (covid.idmod.org)

[29] Lavista Ferres JM, Thakkar N, Etzioni R, Huynh GH, Painter I, **Famulare M** (7 Aug 2020). WA Situation Report 12: COVID-19 transmission across Washington State. (covid.idmod.org)

[28] Burstein R, **Famulare M** (3 Aug 2020). SCAN Data Results and Technical Report #3. (publichealthinsider.com)

[27] Etzioni R, Lavista Ferres JM, Burstein R, Huynh GH, Painter I, Gulati R, Thakkar N, **Famulare M** (31 Jul 2020). WA Situation Report 11: COVID-19 transmission across Washington State. (covid.idmod.org)

[26] Thakkar N, Burstein R, Lavista Ferres JM, Etzioni R, Huynh GH, Painter I, **Famulare M** (24 Jul 2020). WA Situation Report 10: COVID-19 transmission across Washington State. (covid.idmod.org)

[25] Etzioni R, Lavista Ferres JM, Burstein R, Huynh GH, Painter I, Gulati R, Thakkar N, **Famulare M** (17 Jul 2020). WA Situation Report 9: COVID-19 transmission across Washington State. (covid.idmod.org)

[24] Cohen J, Mistry D, Kerr C, **Famulare M**, Klein DJ (15 Jul 2020). Schools are not islands: we must mitigate community transmission to reopen schools. (covid.idmod.org)

[23] Etzioni R, Lavista Ferres JM, Huynh GH, Painter I, Gulati R, Thakkar N, **Famulare M** (26 Jun 2020). WA Situation Report 8: COVID-19 transmission across Washington State. (covid.idmod.org)

[22] Thakkar N, Huynh GH, Etzioni R, Painter I, Lavista Ferres JM, **Famulare M** (2 Jul 2020). WA Situation Report 7: COVID-19 transmission across Washington State. (covid.idmod.org)

[21] **Famulare M**, Hart G (2 Jul 2020). Wear your mask and keep your distance! We need you to fight the surge of COVID-19 in King County. (publichealthinsider.com)

[20] Zimmermann M, Burstein R, Bennette C, Chao DL, **Famulare M** (2 Jul 2020). COVID-19 epidemic shifts younger while inequities grow wider in Washington State. (covid.idmod.org)

[19] Huynh GH, Lavista Ferres JM, Thakkar N, Etzioni R, Painter I, **Famulare M** (26 Jun 2020). WA Situation Report 6: COVID-19 transmission across Washington State. (covid.idmod.org)

[18] Huynh GH, Lavista Ferres JM, Thakkar N, Etzioni R, Painter I, **Famulare M** (19 Jun 2020). WA Situation Report 5: COVID-19 transmission across Washington State. (covid.idmod.org)

[17] Huynh GH, Lavista Ferres JM, Thakkar N, Etzioni R, Painter I, **Famulare M** (13 Jun 2020). WA Situation Report 4: COVID-19 transmission across Washington State. (covid.idmod.org)

[16] Huynh GH, Lavista Ferres JM, Thakkar N, Etzioni R, Painter I, **Famulare M** (8 Jun 2020). WA Situation Report 3: COVID-19 transmission across Washington State. (covid.idmod.org)

[15] Thakkar N, Zimmermann M, Burstein R, Wenger E, **Famulare M** (29 May 2020). Comparing COVID-19 dynamics in King and Yakima counties. (covid.idmod.org)

[14] Huynh GH, Lavista Ferres JM, Thakkar N, Painter I, **Famulare M** (26 May 2020). WA Situation Report 2: COVID-19 transmission across Washington State. (covid.idmod.org)

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[3] **Famulare M** (4 Feb 2020 & revised 19 Feb 2020). 2019-nCoV: preliminary estimates of the confirmed-case-fatality-ratio and infection-fatality-ratio, and initial pandemic risk assessment. (github)

[2] **Famulare M**, Hart G, Althouse B, Hu H (Jan 2020). Situation Report: first generation of local transmission outside of China. (github)

[1] **Famulare M** (26 Jan 2020). nCoV: incubation period distribution. (github)

Conference Proceedings

[2] Kerr CC, Stuart RM, Mistry D, Abeysuriya RG, Cohen JA, George L, Jastrzebski M, **Famulare M**, Wenger E, Klein DJ (2022). Python vs. the pandemic: a case study in high-stakes software development. *Proc. of the 21st Python in science comp. (SCIPY 2022).* doi:10.25080/10.25080/majora-212e5952-00e

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Selected Media

BBC Two. 54 days: America and the Pandemic 2 Feb 2021
King 5 News. Don't bring COVID-19 to dinner: Washington health officials warn against holiday gatherings 18 Nov 2020
This Podcast Will Kill You. COVID-19 Chapter 11: Modeling (transcript) 4 May 2020
The New Yorker. Seattle's Leaders Let Scientists Take the Lead. New York's Did Not 4 May 2020
The New Yorker. The End of the Beginning: Seattle Braces for the Next Phase of the Coronavirus Fight 4 May 2020
Public Health Seattle & King County. Transcript of a News Teleconference 14 Apr 2020
The Seattle Times. How big will the coronavirus outbreak get? This Bellevue scientist is figuring that out 15 Mar 2020
The New York Times. Coronavirus May Have Spread in U.S. for Weeks, Gene Sequencing Suggests 1 Mar 2020

Invited Talks

The Foundations of Biomedical Data Science. Choices Give Meaning to Uncertainty: Stories from Pandemic Emergence, Policy Advising, and (very) Personalized Medicine. (recording) Mar 2023
Metaculus Million Predictions Hackathon. The Best Tools are Fit for Purpose: A Perspective on Information Flow, Modeling, and Decision Making. (recording) Dec 2022
Washington State Legislature, Democratic Caucus: COVID-19 Briefing–Schools Mar 2021
Washington State Senate: Health and Long-term Care Committee Sep 2020
Challenge Seattle COVID-19 Briefing Aug 2020
Washington State Legislature, Democratic Caucus: COVID-19 Briefing–SitRep Jul 2020
Challenge Seattle COVID-19 Briefing Jul 2020
Enabling infectious disease genomics for global health, Cambridge MA Jun 2018
BC CDC Grand Rounds. Biological Challenges on the Path to Poliovirus Eradication. May 2018
Vancouver Bioinformatics Users Group (VanBUG). Evolutionary epidemiology of vaccine-derived poliovirus transmission. (recording) May 2018
Malaria Modeling Consortium, Seattle WA May 2018
University of Michigan School of Public Health Seminar, Ann Arbor MA Dec 2017
Langer Lab Seminar (MIT), Cambridge MA Mar 2017
Panel: Exploring Life Sciences Careers, Boston MA Feb 2017
PyLadies, Seattle WA Jul 2016
WHO Polio Research Council, Seattle WA Apr 2016
IDM Symposium, Bellevue WA Apr 2016
MAC-EPID Symposium at the University of Michigan, Ann Arbor WA Mar 2016
Fred Hutchinson Cancer Research Institute VISC Analysis meeting, Seattle WA Apr 2015
Consortium for a New OPV, Napa CA Feb 2014
Third Northwest Computational Neuroscience Connection, Seattle WA Sep 2011
Methods in Computational Neuroscience, Woods Hole MA Aug 2011
Seminar: Group for Neural Theory at l'École Normale Supériure, Paris FR Feb 2011
Emerging Techniques in Neuroscience, Santa Barbara CA Oct 2010
SIAM Life Sciences, Pittsburgh PA Jul 2010
Mathematical Biology Seminar, Davis CA May 2010

Conference Poster Sessions and Talks

[11] **Famulare M**. Experience with modeling to inform COVID-19 control strategy in Washington State. Second Symposium in Global Health: Shanghai Science and Technology Exchange Center 2020.

[10] **Famulare M.** High-resolution mapping of respiratory pathogens in the Seattle Metro Area. Epidemics 7, 2019.

[9] **Famulare M**. Beyond reversion: evolutionary epidemiology of vaccine-derived poliovirus transmission. II Joint Congress on Evolutionary Biology 2018.

[8] **Famulare M**, Chang S, Behrend M, Stern A, Iber J, Zhao K, Adeniji A, Baba M, Burns CC, Obserste MS. Analysis of the evolutionary dynamics of live polio vaccine in cases of non-polio acute flaccid paralysis in Nigeria. NIH Translational and Regulatory Science of Polio Vaccine and Antivirals 2014.

[7] **Famulare M**, Hu H, and Behrend M. Phylogeography of infectious diseases by direct descent: a pairwise method to reconstruct transmission history from genetic sequence data. Epidemics[4] 2013.

[6] Gjorgjieva J, **Famulare M**, and Fairhall AL. Implications of single-neuron gain scaling for information transmission in networks. COSYNE 2011.

[5] Goldwyn JH, **Famulare M**, Imennov NS, Fairhall AL, Rubenstein JT, and Shea-Brown E (2011). Rethinking approximations of channel noise in stochastic Hogkin-Huxley models. SfN 2010.

[4] Gjorgjieva J, **Famulare M**, Mease RA, and Fairhall AL. Implications of single-neuron gain control for information transmission in networks. SfN 2010.

[3] **Famulare M**, Mease RA, and Fairhall AL. Origins of contrast gain control in isolated cortical neurons: deriving the code from the dynamics. COSYNE 2010.

[2] **Famulare M**, Wark B, Mease RA, and Fairhall AL. Mechanisms of adaptation to stimulus statistics in neuronal systems (talk). APS March Meeting 2010.

[1] **Famulare M** and Fairhall AL. Adaptation in simple neurons: dependence of feature selectivity on stimulus statistics. COSYNE 2009.

Research Support

The Institute for Disease Modeling (IDM) is a research institute within the Global Health division of the Bill and Melinda Gates Foundation. My role is fully funded within an organization that takes no external funding. Prior to being incorporated into the Gates Foundation in July 2020, IDM was an institute within Global Good at Intellectual Ventures. My role there was also fully funded, and I received no external funding. The following represent a selection of projects on which I was/am a co-Investigator and/or a co-author of the funded proposal and for which my leadership was essential to receiving funding.

Environmental surveillance for typhoid in Nepal. Bill & Melinda Gates Foundation. Co-investigator with PI Eric Alm (Massachussets Institute of Technology). Jan 2019

Seattle Flu Study. Gift from Gates Ventures. Co-Principal Investigator. Nov 2018

Purpose: to produce evidence for the improved community-level safety of genetically-stabilized live-attenuated polio vaccines. Bill & Melinda Gates Foundation. Co-investigator with PI Mami Taniuchi (University of Virginia). Aug 2018

Purpose: to fill in existing knowledge gaps of the dynamics of Sabin virus transmission at a population level and on the impact of different vaccination schedules on such potential risk of transmission. Bill & Melinda Gates Foundation. Co-investigator with PI William Petri (University of Virginia). Dec 2014

Teaching Experience

Instructor: Methods in Computational Neuroscience Aug 2010 & Aug 2011
Marine Biological Laboratory, Woods Hole, MA
Lecturer: Connections between adaptive computation and single neuron dynamics.

Lead Teaching Assistant: Physics 123 Jun 2009 – Jun 2010 Department of Physics, UW
Introductory Physics sequence labs (1XX)

Teaching Assistant Sep 2005 – Jun 2009 Department of Physics, UW
Introductory Physics sequence lectures and labs (1XX), Light and Color for non-majors (214), undergraduate Quantum Mechanics (324), Electricity and Magnetism (331), and graduate Nuclear Theory (560).

Physics Teacher: Stuyvesant High School Sep 2004 – Jun 2005 New York, NY

Special Education Teaching Assistant: Bergen County Special Services Jan 2003 – Aug 2005 Bergen County, NJ

Student Teacher: The Beacon School Sep 2003 – Jun 2004 New York, NY

Private Tutor Feb 2000 – Jun 2005 Boston, MA and New York, NY

Date compiled: March 24, 2023.