

Stephen Kissler, PhD

Assistant Professor of Computer Science, University of Colorado Boulder
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Education

Ph.D. Applied Mathematics, University of Cambridge Advisor: Julia Gog Dissertation: Geographic and demographic transmission patterns of the 2009 A/H1N1 influenza pandemic in the United States	2018
M.S. Applied Mathematics, University of Colorado Boulder Advisor: David Bortz Thesis: Determination of personalized diabetes treatment plans using a two-delay model	2014
B.S. Applied Mathematics, University of Colorado Boulder <i>Magna cum laude</i>	2014

Professional Experience

Assistant Professor, University of Colorado Boulder, Boulder CO	Aug 2023 – Present
Postdoctoral Fellow, Harvard T.H. Chan School of Public Health, Boston MA <ul style="list-style-type: none"> Identified drivers of geographic and temporal variation in antibiotic prescribing in the US Produced global COVID-19 projections, measured geographic disparities in COVID-19 transmission in New York City, and characterized SARS-CoV-2 viral load trajectories 	Jan 2019 – July 2023
Epidemiological Consultant, Partners in Health <ul style="list-style-type: none"> Provided expert consultation on equitable vaccine prioritization strategies leading to guidance documents for public health departments and non-profits in the US 	Dec 2020 – Apr 2021
Epidemiological Consultant, National Basketball Association <ul style="list-style-type: none"> Provided model-based guidance on testing, game schedule, and venue occupancy for safely resuming the 2020-21 professional basketball season 	Jul 2020 – Jun 2021
Junior Research Fellow, Queens' College, University of Cambridge, Cambridge UK <ul style="list-style-type: none"> Conducted national (UK) citizen science study on human mobility and interaction patterns 	Oct 2017 – Oct 2020

Honors and Awards

Kalpana Chawla Outstanding Recent Graduate Award Prize by the University of Colorado Alumni Association recognizing alumni who have made exceptional contributions to their field and significant contributions to the community.	2025
NOMIS & Science Young Explorer Award Finalist Prize by NOMIS and AAAS for outstanding research performed by the applicant as described in a 1,000-word essay.	2022
Barry R. and Irene Tilenius Bloom Fellowship Harvard Chan School trainee award recognizing academic merit, leadership potential, and commitment to improving public health in fields and areas of the world in greatest need.	2022
Institut Mittag-Leffler Fellowship Awarded funding to attend 2-week residential research exchange on mathematical biology in Stockholm, Sweden.	2018
Research Fellowship, Queens' College, University of Cambridge	2017

Awarded three years of funding to conduct independent research in mathematics.

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| 65 th Lindau Nobel Laureate Meeting
One of 650 young scientists selected internationally to attend a week-long academic exchange with 70 Nobel Laureates in physics, chemistry, and medicine & physiology. | 2015 |
| Gates Cambridge Scholarship
Merit, leadership, and service-based award for full funding to complete a Ph.D. at the University of Cambridge. | 2014 |
| Outstanding Graduate, University of Colorado College of Engineering
Selected for outstanding achievement in research, service, and academics. | 2014 |

Funding

Awarded

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| Quantifying the design of effective testing-based policies through infection trajectory modeling
PI, with Co-PI Daniel Larremore (University of Colorado Boulder)
\$968,765 to University of Colorado Boulder
NSF, CDC: Mathematical Modeling of Policy Options for Evolving Public Health Challenges | 2025-2027 |
| The Watering Whole: Forming a large-scale research collaboration focusing on understanding the modern people, materials, and contaminants flowing with the One Water Cycle
Co-PI, with PI Cresten Mansfeldt and co-PIs Shideh Dashti, Julie Korak, Abbie Liel, Sheldon Masters, Nicole Xu (University of Colorado Boulder)
\$100,000 to University of Colorado Boulder
University of Colorado Boulder CRT grants | 2025-2026 |

Submitted/Pending

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| Assessing individual-level variation in respiratory viral infectiousness
PI
NIH R35 (MIRA ESI) | 2025-2030 |
| Creating an intelligent outbreak response system for a new public health era
PI
David & Lucile Packard Fellowship for Science & Engineering | 2025-2030 |
| Metrics of mobility and time-varying local conditions to improve surveillance and forecasting of respiratory pathogens
Co-PI, with PI Elizabeth Carlton and Co-PIs Talia Quandelacy, Jing Li, Nisha Alden, Elise Grover
NIH R01 | 2025-2030 |
| Modeling innovative tools to address data gaps in tuberculosis (TB) prevention
Co-PI, with PI Kristin Nelson and Co-PI Tyler Brown
NIH R21 | 2025-2030 |

Invited Presentations

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| European Centre for Disease Control and Prevention: Modelling Perspectives (Virtual)
Title: Integrating viral kinetics into routine outbreak surveillance | Jun 2025 |
| University of Illinois Urbana-Champaign Department of Microbiology Colloquium (Champaign IL)
Title: Measuring, modeling, and interpreting the kinetics of respiratory viruses | Apr 2025 |

Keynote: Boettcher Foundation Webb-Waring Innovation Summit (Denver CO) Title: Innovations in pandemic modeling and beyond	Oct 2024
Colorado School of Mines Department of Applied Mathematics and Statistics Colloquium (Golden CO) Title: Modeling infectious disease dynamics across scales	Oct 2024
Massachusetts Consortium on Pathogen Readiness Variants and Vaccines Meeting (Virtual; Boston MA) Title: Viral kinetics of sequential SARS-CoV-2 infections	Feb 2024
Predictive Intelligence for Limiting Outbreak Threats (PILOT) workshop (Boston MA) Title: Incorporating human behavior into infectious disease models	Sep 2023
MIDAS Diversity Conference (Boston MA) Title: Introduction to SIR Modeling	Mar 2023
Contagion on Complex Social Systems (Boulder CO) Title: Linking viral kinetics with disease transmission and control	Aug 2022
Expert consultation meeting on the Implementation and Evaluation of Non-Pharmaceutical Interventions (Stockholm) Panel title: Non-Pharmaceutical Interventions: The North American Experience	Jun 2022
Latin American Symposium on Epidemiological Methods in the COVID-19 Pandemic (Boston MA) Title: Introduction to Infectious Disease Models	Jun 2022
Modelling Behaviour to Inform Policy for Pandemics (University of Cambridge/Virtual) Title: The BBC Pandemic Programme	Nov 2021
Fred Hutch/Washington State University Workshop on Virus Dynamics (Virtual) Title: Modeling SARS-CoV-2 dynamics across scales	Oct 2021
Harvard/Broad Institute Working Group on SARS-CoV-2 Variants (Virtual) Title: Viral dynamics of the SARS-CoV-2 variant B.1.1.7	Mar 2021
UK Scientific Pandemic Influenza Group on Modelling (SPI-M) (Virtual) Title: Viral dynamics of the SARS-CoV-2 variant B.1.1.7	Feb 2021
Emory University Theory and Modeling of Living Systems symposium on SARS-CoV-2 modeling (Virtual) Title: Preparing for Gen C: Training a new generation of epidemiologists to meet a new generation of public health crises (https://www.youtube.com/watch?v=vjl8ztuo9Ug&t=2540s)	Jan 2021
COVID-19 Dynamics and Evolution (Virtual) Title: Geographic disparities in SARS-CoV-2 prevalence are predicted by reductions in commuting-style mobility	Jul 2020
Council of State and Territorial Epidemiologists training session (Virtual) Title: Modeling SARS-CoV-2 transmission in a shifting landscape	Jun 2020
Boston University Department of Epidemiology colloquium (Boston MA) Title: Accounting for trends in antibiotic prescribing: better prescribing or less disease?	Jan 2020
Infectious Disease Dynamics Conference (Ambleside UK) Title: Accounting for trends in antibiotic prescribing: better prescribing or less disease?	Sep 2019
Probability and Biological Evolution, Centre International de Rencontres Mathématiques (Marseille-Luminy, France)	Jun 2018

Title: Human mobility and strain dynamics

Other Presentations

IDWeek (Boston MA) Title: Viral kinetics of repeat SARS-CoV-2 infections	Oct 2023
IDWeek (Boston MA) Title: Assessing the potential reduction in morbidity and mortality attainable by delayed influenza vaccine strain selection	Oct 2023
Pre-Research Advising Session (Boulder CO) Title: Introduction to infectious disease modeling	Oct 2023
Host-Pathogen Supergroup Meeting (Boulder CO) Title: Using viral kinetics to infer relationships between SARS-CoV-2 and the immune system	Oct 2023
Kern National Network for Flourishing in Medicine 2023 Conference Title: Virtue in caring for the individual and caring for the collective	Sep 2023

Teaching

University of Colorado Boulder, Boulder CO	
<ul style="list-style-type: none"> • First-year Engineering Seminar (COEN 1830) • Information Theory, Statistical Inference, and Applications (CSCI 7000) • Calculating Biological Quantities (CSCI 2897) • Intro to MS Research (CSCI 5000) – Guest lecturer 	Fall 2024, Fall 2025 Spring 2024, Spring 2025 Fall 2023, Fall 2024 Fall 2023
Harvard T.H. Chan School of Public Health, Boston MA	
<ul style="list-style-type: none"> • Introduction to Infectious Disease Dynamics (EPI501) – Guest lecturer • Introduction to Clinical Epidemiology (EPI208) – Guest lecturer • Mathematical Modeling of Infectious Diseases (EPI260) – Teaching fellow 	2021 2020 – 2021 2020
Boston University, Boston MA	
<ul style="list-style-type: none"> • Advanced Methods in Infectious Disease Epidemiology (BS825) – Guest lecturer 	2021
Brandeis University, Boston MA	
<ul style="list-style-type: none"> • Introduction to Epidemiology, Biostatistics, and Population Health (HSSP 100B) – Guest lecturer 	2021
University of Cambridge, Cambridge UK	
<ul style="list-style-type: none"> • Mathematical Biology (Part II) – Supervisor • Social Networks and Behavioural Ecology (Part II) – Guest lecturer 	2015 – 2018 2017
University of Colorado Boulder, Boulder CO	
<ul style="list-style-type: none"> • Technology, Cybersecurity, and Policy seminar (CYBR 5000) – Guest lecturer • Applied Analysis (APPM 4440) – Course assistant • Matrix Methods (APPM 3310) – Course assistant 	2020 2012 2010

Mentorship

University of Colorado Boulder, Boulder CO

Primary:

L. Hadley: Postdoctoral fellow, Oct 2024-present

- C. Fulton: PhD candidate (applied mathematics), Jan 2024-present
- M. Richards-Dinger: PhD candidate (applied mathematics), Mar 2024-present
- N. Rahal-Arabi: MS candidate (computer science), Oct 2024-present
- A. Paul: MS candidate (computer science), Oct 2024-present
- L. Slemp: PhD candidate (Biochemistry), Sep 2024-Dec 2024 (rotation)

Co-mentor:

- L. de Pablo: PhD candidate (Ecology & Evolutionary Biology), Sep 2024-present
- K. Bardsley: PhD candidate (Ecology & Evolutionary Biology), Sep 2024-present
- A. Thilagar: PhD candidate (Computer Science), Sep 2024-May 2025
- K. Bubar: PhD candidate (Computer Science), Aug 2023-May 2024
- C. Middleton: PhD candidate (Computer Science), Aug 2023-May 2025
- I. Kasarskis: PhD candidate (Environmental and Occupational Health), Feb 2024-Mar 2025

Harvard T.H. Chan School of Public Health, Boston MA

Mentored four graduate students on various projects, including predicting the impact of a gonococcal vaccine on antibiotic prescribing, using point-of-care diagnostics to detect pathogens with antimicrobial resistance, and estimating spatial and temporal variation in antibiotic prescribing and antibiotic resistance. 2019 – 2023.

University of Cambridge, Cambridge UK

Mentored a doctoral student on identifying optimal distance metrics for geographic disease transmission models. 2017 – 2019.

Service**General/Field**

- National Science Foundation Emerging Mathematics in Biology (eMB) review panelist 2025
- Marsden fund application review panelist 2024
- National Science Foundation IHBEM application review panelist 2023
- Boettcher Foundation COVID-19 Innovation Fund review panelist 2020

University of Colorado Boulder

- BioFrontiers Council Member 2024 – present
- Teaching Circle Coordinator Spring 2024
- Graduate Committee Member/Mentorship subgroup lead 2023 – present
- Humanities & Social Sciences Committee Member 2023 – present
- Infectious disease subgroup moderator 2023 – present
- New faculty lunch orgBanizer 2023
- ABNexus grant reviewer 2023
- K. Bubar dissertation defense committee 2023 – present
- C. Middleton dissertation defense committee 2023 – present
- I. Kasarskis dissertation defense committee 2024 – present
- B. Mirphochoev MS thesis defense committee 2024
- IQBiology Group rotation mentor Spring 2024

Harvard T.H. Chan School of Public Health, Boston MA

- Fungal pathogen modeling working group founding member 2023
- Member of the WHO Access to COVID-19 Tools Accelerator (ACT-A) modeling consortium 2021 – 2023
- Volunteer with Get Out the Vax (bilingual phone banking to register people for vaccination) 2021
- Podcast host for *Pandemic: Coronavirus Edition* 2020 – 2022
- Contributing member of the CDC COVID-19 modeling working group 2020
- Harvard T.H. Chan Postdoctoral Association Departmental Representative (Immunology and Infectious Diseases), Mental Health Initiative Coordinator 2019 – 2022
- Ad-hoc journal reviewer (BMJ Open, Clinical Infectious Diseases, eLife, Elsevier S&T Books, Emerging Infectious Diseases, Epidemics, JAMA Network Open, J. Roy. Soc. 2019 – present

Interface, The Lancet, Nature, Nature Communications, Nature Human Behaviour, Phil. Trans. Roy. Soc. B, PLOS Computational Biology, PLOS Medicine, PLOS One, PNAS, Science)

- Guest lecturer for the MIDAS Conference to Increase Diversity in Mathematical Modeling and Public Health 2019

University of Cambridge, Cambridge UK

- Queens' College undergraduate admissions interviewer 2017
- Gates Cambridge Orientation Committee treasurer 2016
- Addenbrookes Hospital chaplaincy volunteer 2016-2018
- Sutton Trust Summer School volunteer and presenter 2016 – 2017
- Worms and Bugs Seminars co-organizer (cross-disciplinary disease modeling seminar) 2015 – 2018
- King's College Graduate Society treasurer 2015 – 2016
- King's College Charitable Giving Stewardship Committee, Graduate Representative 2015 – 2016
- Cambridge Science Festival Maths Open Day volunteer and presenter 2015
- Cambridge Maths Circle Outreach Day volunteer 2014

University of Colorado Boulder, Boulder CO

- Engineering Excellence Fund Board Member/Chair (oversaw \$500,000 grant budget) 2011 – 2013
- Society for Industrial and Applied Mathematics Chapter Co-President 2010 – 2014

Bibliography

Peer-reviewed publications

J.A. Hay, D.B. Larremore, A.V. Aatresh, **S.M. Kissler**. Integrating viral kinetics into routine outbreak surveillance: challenges, opportunities, and lessons from COVID-19. *Proceedings of the Royal Society B*, Forthcoming.

K.N. Nelson, T.S. Brown, **S.M. Kissler**. Diagnostic testing as a public health intervention: challenges and opportunities. *Future Virology*, Dec. 2025.

K.I.O. Roster, **S.M. Kissler**, E. Omoregie, J.C. Wang, H. Amin, S. Di Lonardo, S. Hughes, Y.H. Grad. Surveillance strategies for the detection of new pathogen variants across epidemiological contexts. *PLOS Computational Biology*, Sep. 2024

M. Lipsitch, M.T. Bassett, J.S. Brownstein, P. Elliott, D. Eyre, M.K. Grabowski, J.A. Hay, M. Johansson, **S.M. Kissler**, D.B. Larremore, J. Layden, J. Lessler, R. Lynfield, D. MacCannell, L.C. Madoff, C.J.E. Metcalf, L.A. Meyers, S.K. Orofi, C. Quinn, A.I. Ramos Bento, N. Reich, S. Riley, R. Rosenfeld, M.H. Samore, R. Sampath, R.B. Slayton, D.L. Swerdlow, S. Truelove, J.K. Varma, Y.H. Grad. Infectious disease surveillance needs for the United States: Lessons from COVID-19. *Frontiers in Public Health*, Jul. 2024

M.C. Kline, **S.M. Kissler**, L.K. Whittles, M.L. Barnett, Y.H. Grad. Spatiotemporal trends in Group A Streptococcal pharyngitis in the United States. *Clinical Infectious Diseases*, May 2024.

S.M. Kissler*, K.I.O. Roster*, R. Petherbridge, A. Mehrotra, M.L. Barnett, Y.H. Grad. Drivers of geographic patterns in outpatient antibiotic prescribing in the United States. *Clinical Infectious Diseases*, Mar. 2024. (*denotes equal contribution)

Andrew Atkeson, **Stephen Kissler**. The impact of vaccines and behavior on US cumulative deaths from COVID-19. *Brookings Papers on Economic Activity*, Mar. 2024

J.W. Olejarz, K.I.O. Roster, **S.M. Kissler**, M. Lipsitch, Y.H. Grad. Optimal environmental testing frequency for outbreak surveillance. *Epidemics*, Feb. 2024

A.D. Wilcock, **S.M. Kissler**, A. Mehrotra, B.E. McGarry, B.D. Sommers, D.C. Grabowski, Y.H. Grad, M.L. Barnett. Clinical risk and outpatient therapy utilization for COVID-19 in the Medicare population. *JAMA Health Forum*, Jan. 2024

- S.M. Kissler**, J.A. Hay, J.R. Fauver, C. Mack, C.G. Tai, D.J. Anderson D.D. Ho, N.D. Grubaugh, Y.H. Grad. Viral kinetics of sequential SARS-CoV-2 infections. *Nature Communications*, Oct. 2023
- H.S. Kwok, A.M. Freedy, A.P. Siegenfeld, J.W. Morriss, A.L. Waterbury, **S.M. Kissler**, B.B. Liao. Drug addiction unveils a repressive methylation ceiling in EZH2-mutant lymphoma. *Nature Chemical Biology*, Mar. 2023
- S.M. Kissler**, B. Wang, A. Mehrotra, M. Barnett, Y.H. Grad. Impact of respiratory infection and chronic comorbidities on early pediatric antibiotic dispensing in the United States. *Clinical Infectious Diseases*, 76(3): 382-388, Feb. 2023
- J.A. Hay*, **S.M. Kissler***, J.R. Fauver*, C. Mack*, C.G. Tai, R.M. Samant, S. Connolly, D.J. Anderson, G. Khullar, M. MacKay, M. Patel, S. Kelly, A. Manhertz, I. Eiter, D. Salgado, T. Baker, B. Howard, J.T. Dudley. C.E. Mason, M. Nair, Y. Huang, J. DiFiori, N.D. Grubaugh, Y.H. Grad. Quantifying the impact of immune history and variant on SARS-CoV-2 viral kinetics and infection rebound: A retrospective cohort study. *eLife*, 11:e81849, Nov. 2022 (*denotes equal contribution)
- C.B. Boyer, E. Rumpler, **S.M. Kissler**, M. Lipsitch. Infectious disease dynamics and restrictions on social gathering size. *Epidemics* 40:100620, Nov. 2022
- S.M. Kissler**, Y.H. Grad. Anticipating racial/ethnic mortality displacement from COVID-19. *American Journal of Epidemiology*, 191(8): 1519-1520, Aug. 2022
- J.A. Watson, **S.M. Kissler**, N.P.J. Day, Y.H. Grad, N.J. White. Characterizing SARS-CoV-2 viral clearance kinetics to improve the design of antiviral pharmacometrics studies. *Antimicrobial agents and chemotherapy*, 66(7): e00192-22, Jul. 2022
- S. Lew-Levy, R. Reckin, **S.M. Kissler**, I. Pretelli, A.H. Boyette, A.N. Crittenden, R.V. Hagen, R. Haas, K.L. Kramer, J. Koster, M.J. O'Brien, K. Sonoda, T.A. Surovell, J. Stieglitz, B. Tucker, N. Lavi, K. Ellis-Davies, H.E. Davis. Socioecology shapes child and adolescent time allocation in twelve hunter-gatherer and mixed-subsistence forager societies. *Scientific reports*, 12(1): 8054, May 2022
- D.S. Sun, **S.M. Kissler**, S. Kanjilal, S.W. Olesen, M. Lipsitch, Y.H. Grad. Analysis of multiple bacterial species and antibiotic classes reveals large variation in the association between seasonal antibiotic use and resistance. *PLoS Biology*, 20(3): e3001579, Mar. 2022
- S.M. Kissler***, J. Fauver*, C Mack*, ..., N Grubaugh, Y. Grad. Viral dynamics of SARS-CoV-2 variants in vaccinated and unvaccinated individuals. *New England Journal of Medicine*, Dec. 2021 (*denotes equal contribution)
- C. Giannitsarou, **S.M. Kissler**, F. Toxvaerd. Waning Immunity and the Second Wave: Some Projections for SARS-CoV-2. *American Economic Review: Insights*, 3(3), Sep. 2021
- S.M. Kissler***, J. Fauver*, C Mack*, ..., N Grubaugh, Y.H. Grad. Viral dynamics of acute SARS-CoV-2 infection and applications to diagnostic and public health strategies. *PLOS Biology*, 19(7): e3001333, July 2021 (*denotes equal contribution)
- K.C. Ma, T.F. Menkir, **S.M. Kissler**, Y.H. Grad, M. Lipsitch. Modeling the impact of racial and ethnic disparities on COVID-19 epidemic dynamics. *eLife*, 10:e66601, May 2021
- S.M. Kissler**, M. Klevens, M.L. Barnett, Y.H. Grad. Childhood respiratory outpatient visits correlate with socioeconomic status and drive geographic patterns in antibiotic prescribing. *Journal of Infectious Diseases*, Apr. 2021
- Commentary**: S.E. Cosgrove, E.Y. Klein. Reassessing the link between healthcare access and outpatient antibiotic prescribing. *Journal of Infectious Diseases*, Apr. 2021

- S.M. Kissler***, M. Mitchell*, Y.H. Grad. Reduction in antibiotic prescribing attainable with a gonococcal vaccine. *Clinical Infectious Diseases*, Mar. 2021 (*denotes equal contribution)
- D.B. Larremore, B.K. Fosdick, K.M. Bubar, S. Zhang, **S.M. Kissler**, C.J.E. Metcalf, C.O. Buckee, Y.H. Grad. Estimating SARS-CoV-2 seroprevalence and epidemiological parameters with uncertainty from serological surveys. *eLife*, Mar. 2021
- K.M. Bubar, K. Reinholt, **S.M. Kissler**, M. Lipsitch, S. Cobey, Y.H. Grad, D. Larremore. Model-informed COVID-19 vaccine prioritization strategies by age and serostatus. *Science*, eabe6959, Jan. 2021
- S.M. Kissler***, N. Kishore*, M. Prabhu*, D. Goffman*, Y. Beilin*, R. Landau, C. Gyamfi-Bannerman, B.T. Bateman, J. Snyder, A.S. Razavi, D. Katz, J. Gal, A. Bianco, J. Stone, D. Larremore, C.O. Buckee, Y.H. Grad. Reductions in commuting mobility are correlated with geographic differences in SARS-CoV-2 prevalence in New York City. *Nature Communications*, Aug. 2020 (*denotes equal contribution)
- J.A. Firth, J. Hellewell, P. Klepac, **S.M. Kissler**, A.J. Kucharski, L.G. Spurgin, CMMID COVID-19 working group. Combining fine-scale social contact data with epidemic modelling reveals interactions between contact tracing, quarantine, testing and physical distancing for controlling COVID-19. *Nature Medicine*, Aug. 2020
- A.J. Kucharski, P. Klepac, A. Conlan, **S.M. Kissler**, M. Tang, H. Fry, J.R. Gog, J. Edmunds, CMMID COVID-19 Working Group. Effectiveness of isolation, testing, contact tracing and physical distancing on reducing transmission of SARS-CoV-2 in different settings. *Lancet Infectious Diseases*, Jun. 2020
- A.L. Hicks, **S.M. Kissler**, T.D. Mortimer, K.C. Ma, G. Taiaroa, M. Ashcroft, D.A. Williamson, M. Lipsitch, Y.H. Grad. Targeted surveillance strategies for efficient detection of novel antibiotic resistance variants. *eLife*, 9:e56367, Jun. 2020
- S.M. Kissler***, C. Tedijanto*, E. Goldstein, Y.H. Grad, M. Lipsitch. Projecting the transmission dynamics of SARS-CoV-2 through the postpandemic period. *Science*, 368(6493):860-868, May 2020 (*denotes equal contribution)
- Info and Metrics:** Altmetric score of 19,192; #1 research output of 72,492 in *Science* and #18 research output of 18,494,520 overall.
- S.M. Kissler**, R.M. Klevens, M.L. Barnett, Y.H. Grad. Distinguishing the roles of antibiotic stewardship and reductions in outpatient visits in generating a five-year decline in antibiotic prescribing. *Clinical Infectious Diseases*, Mar. 2020
- S.M. Kissler**, C. Viboud, L. Simonsen, O.N. Bjørnstad, B.T. Grenfell, J.R. Gog. Symbolic transfer entropy reveals the age structure of pandemic influenza transmission from high-volume influenza-like illness data. *J. Roy. Soc. Interface*, 17:20190628, Mar. 2020
- B. Nichols, **S.M. Kissler**. Ending the HIV epidemic in the United States. *The Lancet HIV*, Mar. 2020
- A.L. Hicks, **S.M. Kissler**, M. Lipsitch, Y.H. Grad. Quantifying the surveillance required to sustain genetic marker-based antibiotic resistance diagnostics. *PLOS Biology*, 17(11): e3000547, Oct. 2019
- S. Lew-Levy, **S.M. Kissler**, A.H. Boyette, A.N. Crittenden, I.A. Mabullah, B.S. Hewlett. Who teaches children to forage? Exploring the primacy of child-to-child teaching among Hadza and BaYaka Hunter-Gatherers of Tanzania and Congo. *Evolution and Human Behavior*, in press, Aug. 2019

- S.M. Kissler**, J.R. Gog, C. Viboud, V. Charu, O.N. Bjørnstad, L. Simonsen, B.T. Grenfell. Geographic transmission hubs of the 2009 influenza pandemic in the United States. *Epidemics*, 26:86-94, Oct. 2018
- B. Dalziel, **S.M. Kissler**, J. Gog, C. Viboud, O. Bjørnstad, J.E. Metcalf, B.T. Grenfell. Urbanization and humidity shape the intensity of influenza epidemics in U.S. cities. *Science*, 362(6410):75-79, Oct. 2018
- P. Klepac, **S.M. Kissler**, J.R. Gog. Contagion! The BBC Four Pandemic – the model behind the documentary. *Epidemics*, 24:49-59, Mar. 2018
- V. Charu, S. Zeger, J.R. Gog, O.N. Bjørnstad, **S.M. Kissler**, L. Simonsen, B.T. Grenfell, C. Viboud. Human mobility and the spatial transmission of influenza in the United States. *PLOS Comp. Bio.*, 13(2):e1005382, Feb. 2017
- S.M. Kissler**, C. Cichowitz, S. Sankaranarayanan, D.M. Bortz. Determination of personalized diabetes treatment plans using a two-delay model. *J. Theor. Biol.*, 359:101-111, Oct. 2014

Conference proceedings.

- S. Kissler**, J. Hay, J.F. Fauver, C. Mack, C. Tai, D. Anderson, D.D. Ho, N. Grubaugh, Y.H. Grad. Viral kinetics of sequential SARS-CoV-2 infections. *Open Forum Infectious Diseases*, ofad500.1923, Dec. 2023
- S. M. Kissler**, K. Joshi, N. Van de Velde, N. Vicic, Y. Park, D. Rudin, P. Ghaswalla. Assessing the potential reduction in morbidity and mortality attainable by delayed influenza vaccine strain selection. *Open Forum Infectious Diseases*, ofad500.1469, Dec. 2023
- M. Kline, **S.M. Kissler**, Y.H. Grad. Spatiotemporal trends in Group A Streptococcal Pharyngitis in the United States. *Open Forum Infectious Diseases*, ofad500.1611, Dec. 2023
- K.O. Roster, **S.M. Kissler**, E. Omoregie, J. Wang, H. Amin, S. Di Lonardo, S. Hughes, Y.H. Grad. Surveillance strategies for the detection of new SARS-CoV-2 variants across epidemiological contexts. *Open Forum Infectious Diseases*, ofad500.1926, Dec. 2023

Pre-prints

- J.A. Hay, D.B. Larremore, A.V. Aatresh, **S.M. Kissler**. Integrating viral kinetics into routine outbreak surveillance: challenges, opportunities, and lessons from COVID-19.
- S.M. Kissler**. Training a new generation of crisis-ready epidemiologists.
- A.J.K. Conlan, P. Klepac, A.J. Kucharski, **S.M. Kissler**, M.L. Tang, H. Fry, J.R. Gog. Human mobility data from the BBC Pandemic project. *medRxiv*
- S.M. Kissler**, P. Klepac, M. Tang, J.R. Gog. Sparking "The BBC Four Pandemic": Leveraging citizen science and mobile phones to reveal interpersonal interactions relevant to the spread of disease. *bioRxiv*
- P. Klepac, A.J. Kucharski, A.J.K. Conlan, **S.M. Kissler**, M. Tang, H. Fry, J.R. Gog. Contacts in context: large-scale setting-specific social mixing matrices from the BBC Pandemic project. *medRxiv*

Non-refereed publications and press

- S. Kissler**. Did behavioral changes reduce COVID-19 deaths? Brookings Podcast on Economic Activity, Jun 2024
- S. Kissler**. Revealing contagion. *Science*, 378(6620):611, 11 Nov 2022
Award: NOMIS & Science Young Explorers Essay Award Runner-Up Prize

- S. Kissler.** Let's finally get COVID-19 testing right. *The Hill*, 25 May 2021
- S. Kissler.** If control measures are stopping flu in its tracks, why aren't they stopping coronavirus? *The Conversation*, 4 Feb 2021
- S. Kissler.** Counting. *Harvard Public Health Magazine*, Fall 2020.
- S. Kissler.** Coronavirus: does the common cold protect you from COVID? *The Conversation*, 12 Aug 2020
- S. Kissler.** Will flu or cold viruses push the new coronavirus out of circulation this winter? *The Conversation*, 8 Jun 2020
- S. Kissler.** Game changers: Stories of the revolutionary minds behind game theory (book review). *PLUS Magazine*, 10 Jan 2020
- S. Kissler.** Weapons of math destruction: How big data increases inequality and threatens democracy (book review). *PLUS Magazine*, 8 May 2017
- S. Kissler.** Can you solve my problems? A casebook of ingenious, perplexing and totally satisfying puzzles (book review). *PLUS Magazine*, 9 Jan 2017
- V. Roy, D. Chokshi, **S.M. Kissler**, P. Singh. Making Hepatitis C a rare disease in the United States. *Health Affairs Blog*, Jun 2016

Selected interviews and media appearances

- E. Anthes and J. Corum. Charting an Omicron infection. *The New York Times*, 22 Jan 2022
- D. Leonhart. What do you do when the kids are still unvaccinated? *The New York Times*, 22 Apr 2021
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