Curriculum Vitae

Daniel B. Larremore

Contact Information

BioFrontiers Institute
3415 Colorado Ave.
Boulder, CO 80303, USA

LarremoreLab.github.io
daniel.larremore@colorado.edu
Google Scholar

Education

University of Colorado Boulder 2012
Ph.D, *Applied Mathematics.*
"Critical Dynamics in Complex Excitable Networks"
Advisor: Juan G. Restrepo

University of Colorado Boulder 2009
M.S., *Applied Mathematics*

Washington University in St. Louis 2005
B.S., *Chemical Engineering, cum laude.*

Academic Positions

University of Colorado Boulder **Boulder, CO**
Associate Professor, *Department of Computer Science* 2023 - Present
Assistant Professor, *Department of Computer Science* 2017 - 2023
Core Faculty, *BioFrontiers Institute* 2017 - Present
Affiliate Faculty, *Department of Applied Mathematics* 2020 - Present

Harvard T.H. Chan School of Public Health **Boston, MA**
External Faculty, *Center for Communicable Disease Dynamics* 2020 - Present
Postdoctoral Fellow, Center for Communicable Disease Dynamics 2012 - 2015
Advisor: Caroline Buckee (HSPH), Aaron Clauset (Colorado)

Santa Fe Institute **Santa Fe, NM**
Omidyar Fellow 2015 - 2017

Editorial Positions

PLOS Computational Biology **San Francisco, CA**
Academic Editor 2022 - Present

Awards

- **Alan T. Waterman Award**, National Science Foundation 2022
- **Brilliant 10**, *Popular Science* 2022
- **Robert L. Stearns Award**, University of Colorado Boulder 2021
- **Provost's Faculty Achievement Award**, University of Colorado Boulder 2021
- **Research & Innovation Office Faculty Fellow**, Univ. Colorado Boulder 2020
- **Best Poster** – Genetic Epidemiology of Malaria, Sanger Institute 2018
- **Best Poster** – NetSci 2014, Berkeley, CA 2014
- **Best Poster** – Dynamics Days 2010, Evanston, IL 2010

Peer-Reviewed Publications

* equal contribution
† alphabetical author order
★advised student coauthor

Peer-Reviewed Journal Articles

1. **D. B. Larremore***, K. Joseph*, A. Hannak*, A. Cimpian*, "Explaining Gender Differences in Academics' Career Trajectories." *In Press, Journal of Personality and Social Psychology: Attitudes and Social Cognition* (2023).
2. ★ I. Van Buskirk, A. Clauset, **D. B. Larremore**. "An Open-Source Cultural Consensus Approach to Name-Based Gender Classification", *To appear in the Proceedings of the International Conference on Web and Social Media (ICWSM), (*2023).
3. T. S. Brown, P. Martinez de Salazar Munoz, A. Bhatia, B. Bunda, E. K. Williams, D. Bor, J. S. Miller, A. Mohareb, V. Naranbai, W. Garcia Beltran, T. E. Miller, J. Thierauf, W. Yang, D. Kress, K. Stelljes, K. Johnson, **D. B. Larremore**, J. Lennerz, A. J. Iafrate, S. Balsari, C. O. Buckee, Y. H. Grad. "Geographically skewed recruitment and COVID-19 seroprevalence estimates: A cross-sectional serosurveillance study and mathematical modeling analysis." *BMJ Open,* 13:e061840 (2023).
4. S. Ruybal-Pesántez, F. E. Sáenz, S. Deed, ★ E. K. Johnson, **D. B. Larremore**, C. A. Vera-Arias, K. E. Tiedje, K. P. Day. "Evolution of Plasmodium falciparum var repertoires by sexual recombination sustains disease transmission after an outbreak in Ecuador" *Frontiers in Tropical Diseases*, 4 (2023).
5. ★ N. LaBerge, ★ K. H. Wapman, A. C. Morgan, S. Zhang, **D. B. Larremore**, Aaron Clauset. "Subfield Prestige and Gender Inequality in Computing." *Communications of the ACM* 65(12), 46-55(2022).
6. S. Zhang, ★ K. H. Wapman, D. B. Larremore, Aaron Clauset. "Labor advantages drive the greater productivity of faculty at elite universities." *Science Advances* 8 (46), eabq7056, (2022).
7. **D. B. Larremore**, B. K. Fosdick, S. Zhang, Y. H. Grad. "Optimizing prevalence estimates for a novel pathogen by reducing uncertainty in test characteristics." *Epidemics* 41, 100634. (2022).
8. ★ E. K. Johnson, **D. B. Larremore**. "Bayesian estimation of population size and overlap from random subsamples." *PLOS Computational Biology,* 18 (9), e1010451 (2022).
9. ★ K. H. Wapman, S. Zhang, Aaron Clauset, D. B. Larremore. "Quantifying hierarchy and dynamics in U.S. Faculty Hiring and Retention." *Nature* 610, 120-127 (2022).
10. A. C. Morgan, ★ N. LaBerge, **D. B. Larremore**, M. Galesic, J. E. Brand, A. Clauset. "Socioeconomic Roots of Academic Faculty." *Nature Human Behaviour*, (2022).
11. ★ K. M. Bubar*, ★ C. E. Middleton*, K. K. Bjorkman, R. Parker, **D. B. Larremore**. "SARS-CoV-2 Transmission and Impacts of Unvaccinated-Only Screening in Populations of Mixed Vaccination Status." *Nature Communications*, 13, 2777 (2022).
12. C. A. Lopez, C. H. Cunningham, S. Pugh, K. Brandt, U. P. Vanna, M. J. Delacruz, Q. Guerra, S. J. Goldstein, Y. J. Hou, M. Gearhart, C. Wiethorn, C. Pope, C. Amditis, K. Pruitt, C. Newberry-Dillon, J. Schmitz, L. Premkumar, A. A. Adimora, M. Emch, R. Boyce, A. E. Aiello, B. K. Fosdick, **D. B. Larremore**, A. M. de Silva, J. J. Juliano, A. J. Markmann. "Ethnoracial disparities in SARS-CoV-2 seroprevalence in a large cohort of individuals in central North Carolina from April to December 2020." *mSphere*, e00841-21, (2022).
13. E. Lee, A. Clauset, **D. B. Larremore.** "The Dynamics of Faculty Hiring Networks. " *EPJ Data Science,* 10, 48, (2021)
14. K. K. Bjorkman, T. K. Saldi, E. Lasda, L. C. Bauer, J. Kovarik, P. K. Gonzales, M. R. Fink, K. L. Tat, C. R. Hager, J. C. Davis, C. D. Ozeroff, G. R. Brisson, **D. B. Larremore**, L. A. Leinwand, M. B. McQueen, R. Parker. "Higher viral load drives infrequent SARS-CoV-2 transmission between asymptomatic residence hall roommates." *Journal of Infectious Diseases,* jiab386, (2021).
15. E. Hobson, M. Silk, N. Fefferman, **D. B. Larremore**, P. Rombach, S. Shai, N. Pinter-Wollman. "A guide to choosing and implementing reference models for social network analysis." *Biological Reviews,* (2021)
16. **D. B. Larremore**, D. Toomre, R. Parker. "Modeling the effectiveness of olfactory testing to limit SARS-CoV-2 transmission." *Nature Communications*, 12, 3664 (2021).

17. M. I. Nisar, N. Ansari, F. Khalid, M. Amin, H. Shahbaz, A. Hotwani, N. Rehman, S. Pugh, U. Mehmood, A. Rizvi, A. Memon, Z. Ahmed, A. Ahmed, J. Iqbal, A. F. Saleem, U. B. Aamir, **D. B. Larremore,** B. K. Fosdick, F. Jehan. "Serial population-based serosurvey for COVID-19 in two neighborhoods of Karachi, Pakistan." *International Journal of Infectious Diseases* (2021).
18. **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* 10:e64206 (2021).
19. M. Kawakatsu*, P. S. Chodrow*, N. Eikmeier*, **D. B. Larremore**. "Emergence of hierarchy in networked endorsement dynamics." *Proceedings of the National Academy of Sciences, USA* 118 (16) e2015188118 (2021).
20. A. C. Morgan, S. F. Way, M. J. D. Hoefer, **D. B. Larremor**e, M. Galesic, A. Clauset. "The unequal impact of parenthood in academia." *Science Advances,* 7 (9), eabd1996 (2021).
21. ★ K. M. Bubar, S. M. Kissler, M. Lipsitch, S. Cobey, Y. H. Grad, **D. B. Larremore**. "Model-informed COVID-19 vaccine prioritization strategies by age and serostatus" *Science,* 371 (6532), 916-921 (2021).
22. K. R. Sabourin, J. Schultz, J. Romero, M. M. Lamb, **D. B. Larremore**, T. E. Morrison, A. Frazer-Abel, S. Zimmer, R. M. Kedl, T. Jaenisch, R. Rochford. "Risk Factors of SARS-CoV-2 Antibodies in Arapahoe County First Responders - the COVID-19 Arapahoe SErosurveillance Study (CASES) Project" *Journal of Occupational and Environmental Medicine* 63 (3), 191-198 (2021).
23. **D. B. Larremore**, B. Wilder, E. Lester, S. Shehata, J. M. Burke, J. A. Hay, M. Tambe, M. J. Mina, R. Parker. "Test sensitivity is secondary to frequency and turnaround time for COVID-19 screening." *Science Advances,* eabd5393 (2020).
24. K. Finlinson, W. L. Shew, **D. B. Larremore**, J. G. Restrepo. Control of excitable systems is optimal near criticality. *Physical Review Research* 2, 033450 (2020).
25. A. Patania, B. McShane, B. Falk, **D. B. Larremore**, E. McDonnell Feit, E. Bruch, F. Feinberg, J. Helveston, M. Small, M. Braun, N. Fefferman. "Choices In Networks: A Research Framework." *Marketing Letters* (2020).
26. ★ T.-C. Yen, **D. B. Larremore**. Community Detection in Bipartite Networks with Stochastic Blockmodels. *Physical Review E,* 102, 032309 (2020).
27. S. M. Kissler*, N. Kishore*, M. Prabhu*, D. Goffman*, Y. Beilin*, R. Landau, C. Gyamfi-Bannerman, B. T. Bateman, D. Katz, J. Gal, A. Bianco, J. Stone, **D. B. Larremore**, C. O. Buckee, Y. H. Grad. "Reductions in commuting mobility predict geographic differences in SARS-CoV-2 prevalence in New York City." *Nature Communications,* 11, 4674 (2020).
28. **D. B. Larremore**, ★ K. M. Bubar, Y. H. Grad. "Implications of test characteristics and population seroprevalence on 'immune passport' strategies." *Clinical Infectious Diseases*, ciaa1019, (2020).
29. N. Obeng-Adjei*, **D. B. Larremore***, L. Turner, A. Ongoiba, S. Li, S. Doumbo, T. B. Yazew, O. K. Doumbo, K. Kayentao, L. H. Miller, B. Traore, S. K. Pierce, C. O. Buckee, T. Lavstsen, P. D. Crompton, T. M. Tran, "Longitudinal analysis of naturally acquired antibodies to PfEMP1 CIDR domain variants and their association with malaria protection." *JCI Insight*, 5(12) e137262 (2020).
30. † A. Berdahl*, C. Brelsford*, C. De Bacco*, M. Dumas*, V. Ferdinand*, J. A. Grochow*, L. Hébert-Dufresne*, Y. Kallus*, C. P. Kempes*, A. Kolchinsky*, **D. B. Larremore***, E. Libby*, E. A. Power*, C. A. Stern*, B. D. Tracey*. "Dynamics of beneficial epidemics." *Nature Scientific Reports* 9 (15093), (2019).
31. ★ K. H. Wapman, **D. B. Larremore**. "webweb: a tool for creating, displaying, and sharing interactive network visualizations on the web." *Journal of Open Source Software* 4(40), 1458 (2019).
32. S. F. Way, A. C. Morgan, **D. B. Larremore***, A. Clauset*, "Productivity, prominence, and the effects of academic environment." *Proceedings of the National Academy of Sciences, USA* 116(18) (2019).
33. **D. B. Larremore**. "Bayes-optimal estimation of overlap between populations of fixed size." *PLOS Computational Biology* 15(3): e1006898. (2019).
34. V. Agrawal, A. B. Cowley, W. L. Shew, **D. B. Larremore**, J. G. Restrepo, Q. Alfaori. "Robust information capacity requires strong and balanced excitatory and inhibitory synapses." *Chaos **28*** 103115 (2018).
35. C. De Bacco*, **D. B. Larremore***, C. Moore. "A physical model for efficient ranking in networks." *Science Advances **4***(7) eaar8260 (2018).
36. † Bailey K. Fosdick*, **D. B. Larremore***, Joel Nishimura*, Johan Ugander*. "Configuring random graph models with fixed degree sequences." *SIAM Review, **60*** (2) 315-355. (2018).
37. S. F. Way, A. C. Morgan, A. Clauset*, **D. B. Larremore***. "The misleading narrative of the canonical faculty productivity trajectory." *Proceedings of the National Academy of Sciences, USA **114*** (44) E9216-E9223 (2017). [Also

accepted at the *International Conference on Web and Social Media (ICWSM) 2017*, social science track (non-archival).]

38. L. Peel*, **D. B. Larremore***, A. Clauset. "The ground truth about metadata and community detection in networks." *Science Advances* **3**(5) e1602548 (2017).
39. C. De Bacco, E. A. Power, **D. B. Larremore**, C. Moore. "Community detection, link prediction, and layer interdependence in multilayer networks." *Physical Review E* **95** 042317 (2017).
40. **D. B. Larremore**, S. A. Sundararaman, W. Liu, W. R. Proto, A. Clauset, D. E. Loy, S. Speede, L. J. Plenderleith, P. M. Sharp, B. H. Hahn, J. C. Rayner*, and C. O. Buckee*. "Ape parasite origins of human malaria virulence genes." *Nature Communications*, **6**, 8368 (2015).
41. A. Clauset, S. Arbesman, **D. B. Larremore**, "Systematic inequality and hierarchy in faculty hiring networks." *Science Advances,* **1**, e1400005 (2015).
42. A. K. Bei, A. Diouf, K. Miura, **D. B. Larremore**, U. Ribacke, G. Tullo, E. L. Moss, D. E. Neafsey, R. F. Daniels, A. E. Zeituni, I. Nosamiefan, S. K. Volkman, A. D. Ahouidi, D. Ndiaye, T. Dieye, S. Mboup, C. O. Buckee, C. Long, and D. F. Wirth., "Immune characterization of *P. falciparum* parasites with a shared genetic signature in a region of decreasing transmission." *Infection and Immunity*, **83**(1), 276 (2014).
43. **D. B. Larremore,** A. Clauset, and A. Z. Jacobs, "Efficiently inferring community structure in bipartite networks." *Physical Review E,* **90**(1), 012805 (2014).
44. **D. B. Larremore**, W. L. Shew, E. Ott, F. Sorrentino, and J. G. Restrepo, "Inhibition causes ceaseless dynamics in networks of excitable nodes" *Physical Review Letters*, **112**, 138103 (2014).
45. **D. B. Larremore**, A. Clauset, and C. O. Buckee, "A network approach to analyzing highly recombinant malaria parasite genes." *PLOS Computational Biology* **9**(10) e1003268 (2013).
46. **D. B. Larremore*** and D. Taylor*, "Social Climber attachment in forming networks produces phase transition in a measure of connectivity." *Physical Review E* **86** 031140 (2012).
47. **D. B. Larremore**, M. Y. Carpenter, E. Ott, and J. G. Restrepo, "Statistical properties of avalanches in networks." *Physical Review E* **85**, 066131 (2012).
48. **D. B. Larremore**, W. L. Shew, E. Ott, and J. G. Restrepo, "Effects of network topology, transmission delays, and refractoriness on the response of coupled excitable systems to a stochastic stimulus." *Chaos* **21**, 025117 (2011).
49. **D. B. Larremore**, W. L. Shew, J. G. Restrepo, "Predicting criticality and dynamic range in complex networks: effects of topology." *Physical Review Letters* **106**, 058101 (2011).

Peer-Reviewed Conference Proceedings

50. S. F. Way, **D. B. Larremore**, A. Clauset. "Gender, Productivity, and Prestige in Computer Science Faculty Hiring Networks. " *Proceedings of the 2016 World Wide Web Conference (WWW)* 1169-1179, (2016). 11 pages, 16% acceptance rate.

Peer-Reviewed Workshop Papers

51. R. M. Layer, B. K. Fosdick, M. Bradshaw, **D. B. Larremore**, P. Doherty. "Case Study: Using Facebook Data to Monitor Adherence to Stay-at-home Orders in Colorado and Utah." *ACM SIGKDD Conference on Knowledge Discovery and Data Mining, Workshop on Humanitarian Data Mapping,* (2020).

Peer-Reviewed Book Chapters

52. L. M. Childs, **D. B. Larremore**, "Network models for malaria: antigens, dynamics, and evolution over space and time." *Systems Medicine: Integrative Qualitative and Computational Approaches.* Elsevier (2020).
53. **D. B. Larremore**, W. L. Shew, J. G. Restrepo, "Critical Dynamics in Complex Networks" *Criticality in Neural Systems.* Ed. Dietmar Plenz & Ernst Niebur. NY: Wiley, 365-392, (2014).

Peer-Reviewed Perspectives and Essays

54. S. Cobey, **D. B. Larremore**, Y. H. Grad, M. Lipsitch. "Concerns about SARS-CoV-2 evolution should not hold back efforts to expand vaccination." *Nature Reviews Immunology* (2021).
55. M. J. Mina, R. Parker, **D. B. Larremore**. "Rethinking Covid-19 Test Sensitivity — A Strategy for Containment." *The New England Journal of Medicine* (2020).
56. A. Clauset, **D. B. Larremore**, R. Sinatra. "Data-driven predictions in the science of science." *Science* **355**, 477-480 (2017).

Articles Currently Under Peer Review or Revision

57. A. K. Bei, **D. B. Larremore**, K. Miura, A. Diouf, N. K. Baro, R. F. Daniels, A. Griggs, E. L. Moss, D. E. Neafsey, A. B. Deme, M. Sy, S. Schaffner, A. D. Ahouidi, D. Ndiaye, T. Dieye, S. Mboup, C. O. Buckee, S. K. Volkman, C. A. Long, D. F. Wirth, "*Plasmodium falciparum* population genetic complexity influences expression dynamics and immune recognition among highly related genotypic clusters." (2021).
58. Q. Yang, N. R. Meyerson, C. L. Paige, J. H. Morrison, S. K. Clark, W. T. Fattor, C. J. Decker, H. R. Steiner, E. Lian, **D. B. Larremore**, R. Perera, E. M. Poeschla, R. Parker, R. D. Dowell, S. L. Sawyer. "Human mRNA in saliva can correctly identify individuals harboring infection." (2023).
59. I. Nisar, M. Amin, N. Ansari, F. Khalid, N. Rehman, A. Hotwani, A. Memon, U. Mehmood, A. F. Saleem, J. Iqbal; **D. B. Larremore,** B. K. Fosdick, F. Jehan. "Serial Population-Based Serosurveys For COVID-19 In District East of Karachi, Pakistan." (2022)

Other Publications and Preprints

60. ★ E. K. Johnson, R. Kahn, Y. H. Grad, M. Lipsitch, **D. B. Larremore**. "Test negative designs with uncertainty, sensitivity, and specificity." (2021).
61. † A. Berdahl*, U. Bhat*, V. Ferdinand*, J. Garland*, K. Ghazi-Zahedi*, J. Grana*, J. A.Grochow*, E. Hobson*, Y. Kallus*, C. P. Kempes*, A. Kolchinsky*, **D. B. Larremore***, E. Libby*, E. A. Power*, B. D. Tracey*. "On the records." (2017) Available via arxiv.org.
62. D. E. Geer Jr. and **D. B. Larremore**, "Progress is Infectious." *IEEE Security & Privacy* **10**(6) p. 94-95 (2012).

Funding

Assessing Bias and Idiosyncrasies in Elite Scientific Peer Review 2022-2025
Co-PI. SES-2219609. National Science Foundation, Social, Behavioral and Economic Sciences
$501,890 to University of Colorado Boulder
With PI Aaron Clauset (University of Colorado Boulder)

Alan T. Waterman Award 2022-2027
PI. SMA-2226343. National Science Foundation.
$1,000,000 to Larremore.

Model-informed vaccine prioritization strategies 2020-2022
PI. 3U24GM132013-02S2, Models of Infectious Disease Agent Study (MIDAS)
National Institute of General Medical Science, National Institutes of Health
MIDAS Coordination Center (MIDASNI2020-2)
$140,000 to Larremore.

Integrated Data Science (Int dS): Teams for Advancing Bioscience Discovery 2020-2025
Core Faculty. National Science Foundation, Research Traineeship Program
$0 to Larremore. ($3,000,000 to University of Colorado Boulder)
This is a training grant and its funds support the graduate training program, not individual PIs.
With PI Tom Cech and Co-PIs Manuel Lladser, Aaron Clauset, Robin Dowell, and Eric Vance (University of Colorado Boulder)

Causal, Statistical and Mathematical Modeling with Serologic Data 2020-2023
Co-PI (via Subcontract to University of Colorado Boulder)
U01-CA261277, National Cancer Institute, National Institutes of Health
$179,565 to Larremore. ($4,584,395 total funded.)
With PIs Marc Lipsitch and Michael Mina (Harvard T. H. Chan School of Public Health)

Mapping the Structure and Dynamics of the Scientific Ecosystem 2019-2023
PI. 19RT0301. Air Force Office of Scientific Research, Minerva
$2,426,815 to University of Colorado Boulder. ($2,565,505 total funded.)
With Co-I Aaron Clauset (University of Colorado Boulder), Co-I Mirta Galesic (Santa Fe Institute), and Co-I Jennifer Dunne (Santa Fe Institute)

Academic hiring networks and scientific productivity across disciplines 2016-2020
PI. SMA-1633747. National Science Foundation, Social, Behavioral and Economic Sciences
$517,058 to University of Colorado Boulder. ($550,000 total funded.)
With Co-PI Mirta Galesic (Santa Fe Institute) and PI Aaron Clauset (University of Colorado Boulder).
REU Supplement, 2018, $5000 to Larremore
REU Supplement, 2019, $6000 to Larremore

Models of Infections Disease Agents Study Center for Communicable Disease Dynamics 2015-2019
Consultant. U54-GM088558. National Institutes of Health, National Institute of General Medical Sciences, $11,279,771 total funded.
With PI Marc Lipsitch (Harvard T.H. Chan School of Public Health).

Network Assortativity 2014
Proposer. American Mathematical Society Mathematical Research Communities, collaboration grant
$2,250
With co-proposers Bailey Fosdick (Colorado State University), Joel Nishimura (Arizona State University), and Johan Ugander (Microsoft Research)

Industry Experience and Advising

Darwin BioSciences **Boulder, CO**
Scientific Advisory Board 2020 -

Gambro Blood Component Technologies **Lakewood, CO**
Research and Development Engineer 2005 - 2007
Engineering Intern II Summer 2005
Engineering Intern I Summer 2004

Invited Talks

- Briefing: "The Preeminence of Prestige"

Committee on Pathways to Doctoral Degrees in Computing, *NASEM,* Wash. D.C. May 9, 2023

- "Toward evidence-based strategies for improving diversity, equity, and inclusion in science"

Panelist & Moderator. Metascience, Washington D.C. May 9, 2023

- "Quantifying hierarchy and dynamics in U.S. faculty hiring and retention"

Opportunity Insights, *Harvard University,* Cambridge, MA May 3, 2023

- "Data Dreams: U.S. faculty hiring and retention"

Panelist, NSF Data & Analytics Symposium, *National Science Foundation* February 27, 2023

- "Quantifying hierarchy and dynamics in U.S. faculty hiring and retention"

Res. on Alg'ms & Incentives in Networks (RAIN) Seminar, *Stanford Univ.,* Stanford, CA February 8, 2023

- "Quantifying hierarchy and dynamics in U.S. faculty hiring and retention"

Science & Math Ed. Res. Collab. (SMERC) Seminar, *Rochester Inst. Tech.,* Rochester, NY January 30, 2023
- "Trends in US faculty hiring & retention from 10 years of data: a study of prestige, diversity & inequality"

SFI Year In Review, *Santa Fe Institute,* Santa Fe, NM December 15, 2022
- "Trends in US faculty hiring & retention from 10 years of data: a study of prestige, diversity & inequality"

Information Science Colloquium, *University of Colorado Boulder,* Boulder, CO November 30, 2022
- "Trends in US faculty hiring & retention from 10 years of data: a study of prestige, diversity & inequality"

The Long View: Academic Big Data, *North Carolina State University* November 28, 2022
- "Estimating the Mitigation Potential of Screening Programs for Infectious Diseases"

Keynote, *American Statistical Association Fall Meeting* CO/WY Chapter, Denver, CO November 11, 2022
- "Estimating the Mitigation Potential of Screening Programs for Infectious Diseases"

Department of Biological Sciences Seminar, *Purdue University*, West Lafayette, IN November 2, 2022
- "Quantifying hierarchy and dynamics in U.S. faculty hiring and retention"

Research Webinar, *Academic Analytics Research Center* October 21, 2022
- "Trends in US faculty hiring & retention from 10 years of data: a study of prestige, diversity & inequality"

2022 Waterman Lecture, *National Science Foundation* September 28, 2022
- "Quantifying hierarchy & dynamics in U.S. faculty hiring and retention"

Computer Science Colloquium, *University of Colorado Boulder*, Boulder, CO September 22, 2022
- "Estimating the Mitigation Potential of Screening Programs for Infectious Diseases"

Applied Math Colloquium, *University of Colorado Boulder*, Boulder, CO September 2, 2022
- "Estimating the Mitigation Potential of Screening Programs for Infectious Diseases"

Contagion on Complex Social Systems 2022, Boulder*, CO* August 11, 2022
- "Quantifying hierarchy & dynamics in U.S. faculty hiring and retention"

Science of Science Summer School, *Syracuse University* August 8, 2022
- "Optimal control of excitable systems near criticality"

Physical Review Journal Club December 7, 2021
- "Mathematical Models for Disease Mitigation via Testing"

Mathematical Biology and Applied Dynamics Seminar, *Ohio State University* October 28, 2021
- "Vaccination Strategies Prioritization, Dose Sparing, and Decision Making Under Uncertainty & Inequity"

Society for Mathematical Biology, COVID-19 Vaccination Minisymposium June 16, 2021
- "Modeling COVID-19 Testing Strategies: Mitigation vs Information"

Laboratory Medicine Research Conference, *Yale School of Medicine* June 2, 2021
- "Vaccination Strategies Prioritization, Dose Sparing, and Decision Making Under Uncertainty & Inequity"

Computing Advisory Board, Dept. of Computer Science, *Univ. Colorado Boulder* April 15, 2021
- "Vaccination Strategies Prioritization, Dose Sparing, and Decision Making Under Uncertainty & Inequity"

Colloquium, *Santa Fe Institute* March 17, 2021
- "Model-informed COVID-19 vaccine prioritization and dose-sparing strategies by age and serostatus"

Div. of Infectious Diseases Grand Rounds, *Univ. of Colorado Anschutz Sch. Medicine* March 3, 2021
- "Model-informed COVID-19 Vaccine Prioritization Strategies by Age & Serostatus"

Applied Mathematics Dynamics Seminar, *University of Colorado Boulder* January 28, 2021
- "COVID-19 Testing Strategies: Mitigation vs Information"

University of British Columbia - BC COVID-19 Modeling Group December 16, 2020
- "COVID-19 Testing Strategies: Mitigation vs Information"

MIT Media Lab - Trust in Pandemic Tech Seminar December 4, 2020
- "Model-informed COVID-19 Vaccine Prioritization by Age and Serostatus"

Models of Infectious Disease Agent Study (MIDAS) Network seminar November 20, 2020
- "Estimating SARS-CoV-2 seroprevalence & epidemiological parameters with uncertainty from serological surveys"

World Health Organization Solidarity II Sero-Epidemiology Meeting November 5, 2020
- "Model-informed COVID-19 Vaccine Prioritization by Age and Serostatus"

EU/EEA National Immunisation Technical Advisory Group October 15, 2020
- "Surveillance Testing of SARS-CoV-2"

UT Austin COVID-19 Modeling Consortium, *University of Texas at Austin* September 23, 2020
- "Surveillance Testing of SARS-CoV-2"

McGill Genome Center, *McGill University* August 13, 2020

- Panelist: COVID-19 Briefing on Testing

Ergo COVID-19 Intelligence Forum, New York City — August 11, 2020

- "Surveillance Testing of SARS-CoV-2"

COVID-19 Genomics Research Network Meeting, New York Genome Center, — August 3, 2020

- "Modeling the impacts of test sensitivity, frequency, and turnaround time for COVID-19 surveillance."

CSQUID/CIDID Seminar, *University of Florida College of Medicine*, Gainesville, FL. — July 29, 2020

- "SARS-CoV-2 Seroprevalence Estimation, Study Design, and Modeling"

BioStatistics Seminar, *University of Colorado Medical School*, Aurora, CO. — June 17, 2020

- "Explaining Gender Differences in Academics' Career Trajectories"

Webinar, *Computational Social Science Society of the Americas* — May 6, 2020

- "How do Infectious Disease Models Work?"

Collabeeration, BioFrontiers Institute, *University of Colorado Boulder*, Boulder, CO — April 1, 2020

- "Complex networks and *P. falciparum*: from evolution to epidemiology"

Computational BioSciences Seminar, *University of Colorado Medical School*, Aurora, CO. — Mar 9, 2020

- "Complex networks, math, and malaria: from evolution to epidemiology"

Applied Math Colloquium, *University of Colorado Boulder*, Boulder, CO — January 17, 2020

- "Complex networks and *P. falciparum*: from evolution to epidemiology"

Applied Math & Statistics Colloquium, *Colorado School of Mines*, Golden, CO. — Nov 8, 2019

- Panelist: "Development of Trustworthy AI"

Mozilla Foundation & CU Data Science Team, Boulder, CO — October 8, 2019

- "Complex networks and *P. falciparum*: from evolution to epidemiology"

Infectious Disease Epidemiology Seminar Series, *Harvard Sch. Pub. Health*, Boston, MA. — May 9, 2019

- "Which community detection method is best?"

Analysis and Interpretation of Connectomes, *HHMI Janelia*, Ashburn, VA. — May 22, 2018

- "A physical model for efficient ranking in networks."

Applied Math Seminar, *UNC Chapel Hill*, Chapel Hill, NC. — Apr 11, 2018

- "A physical model for efficient ranking in networks."

Duke Network Analysis Center seminar, *Duke University*, Durham, NC. — Apr 10, 2018

- Paper Unwind: "The misleading narrative of the canonical faculty productivity trajectory"

CompleNet, Boston, MA — March 4, 2018

- "Gender, prestige, and productivity in academic hiring networks and career trajectories."

Annenberg School of Communication, *University of Pennsylvania*, Philadelphia, PA. — Feb 13, 2018

- "A physical model for efficient ranking in networks"

Special Session: Network Science,
Joint Mathematics Meeting, San Diego, CA — Jan 12, 2018

- "Estimating the entropy of activity in excitable networks"

Special Session: Emergent Phenomena in Discrete Models,
Joint Mathematics Meeting, San Diego, CA — Jan 12, 2018

- "The ground truth about metadata and community detection in networks"

Special Session: Theory, Practice, and Applications of Graph Clustering,
Joint Mathematics Meeting, San Diego, CA — Jan 11, 2018

- "Large-scale structures in networks: hidden communities and latent hierarchies."

Network Science School, *NetSciX*, Hangzhou, China. — Jan 5, 2018

- "The assembly of prestige and status in networks."

Omidyar Network Applied Complexity Meeting, Santa Fe Institute, Santa Fe, NM. — Dec 12, 2017

- "A physical model for efficient ranking in networks."

Physics Colloquium, *U Arkansas, Fayetteville.* — Nov 17, 2017

- "A physical model for efficient ranking in networks."

Center for the Study of Complex Systems Seminar, *U Michigan.* — Nov 9, 2017

- "Gender, prestige, and productivity in academic hiring networks and career trajectories."

NSF-FAST: Machine Learning for Discovery Science*,* Yerevan, Armenia. — Oct 20, 2017

- "The dynamics of beneficial epidemics."

Dynamics of/on Complex Networks Satellite Symp., *NetSci 2017,* Indianapolis, IN — June 20, 2017

- "Gender, prestige, and productivity in academic hiring networks and career trajectories."

Workshop on Gendered Creative Teams, *Central European Univ.*, Budapest, Hungary May 25, 2017
- "Gender, prestige, and productivity in academic hiring networks and career trajectories."

Seminar, Berkeley Institute for Data Science, *UC Berkeley*, Berkeley, CA Mar 17, 2017
- "The assembly of prestige and status in networks."

Influence, Complexity and Networks, *Dialog Group*, Austin, TX Feb 23, 2017
- "The ground truth about metadata and community detection in networks."

Networks Seminar, *University of Houston*, Houston, TX Oct 28, 2016
- "Gender, prestige, and productivity in faculty hiring networks."

Quantifying Success Satellite Symposium, *NetSci 2016*, Seoul, Korea June 1, 2016
- "Networks and the evolution of malaria's virulence in humans and apes."

Network Frontiers Workshop, *Northwestern Univ. Inst. of Complex Systems*, Evanston, IL Dec 7, 2015
- "Networks in two acts: faculty hiring hierarchies and malaria's evolving virulence."

Arts & Sciences Seminar, *Clarkson University*, Potsdam, NY Nov 13, 2015
- "Networks and the evolution of malaria's virulence in humans and apes."

Mathematics Colloquium, *Clarkson University*, Potsdam, NY Nov 12, 2015
- "Networks, inference, and the evolution of malaria's virulence in humans and apes."

Mechanical Engr. Seminar, *University of New Mexico*, Albuquerque, NM Nov 6, 2015
- "A complex networks approach to malaria's genetic recombination dynamics."

Minisymposium, *SIAM Conf. on Applications of Dynamical Systems (DS15)*, Snowbird, UT May 15, 2015
- "Using networks to analyze rapid genetic recombination in malaria parasites."

Dynamics & Complex Systems Seminar, *Applied Math, University of Colorado Boulder* April 9, 2015
- "Complex networks, rapid genetic recombination, and tricky malaria antigens."

Mathematics Colloquium, *Western New England University* Nov 7, 2014
- "Efficiently inferring community structure in bipartite networks."

Seminar at Network Science and Graph Algorithms Program*, ICERM, Brown University* Mar 4, 2014
- "Ceaseless critical dynamics in excitable networks with inhibitory nodes."

Information, Self-Organizing Dynamics, and Synchronization on Complex Networks,
(ISODS) Satellite Symposium*, NetSci 2014*, Berkeley, CA June 3, 2014
- "Critical dynamics in balanced excitable networks: neuronal avalanches, dynamic range, and ceaseless activity."

Dynamics & Complex Systems Seminar*, Applied Math, University of Colorado Boulder* Feb 28, 2013
- "Critical dynamics in balanced excitable networks: neuronal avalanches, dynamic range, and ceaseless activity."

Seminar*, Center for Complex Network Research, Northeastern University* Feb 5, 2013
- "Predicting criticality and dynamic range in complex networks: effects of topology."

Minisymposium, *SIAM Conf. on Applications of Dynamical Systems (DS11),* Snowbird, UT May 23, 2011

Contributed or Submitted Talks and Presentations

- NIH SeroNet Investigators Meeting March 24, 2022
- Int'l Conf. on Computational Social Science (IC2S2), *University of Amsterdam* July 19, 2019
- SIAM Network Science (SIAM NS19), *Snowbird, UT* May 23, 2019
- BioFrontiers Institute Advisory Board, *Boulder, CO* April 17, 2019
- ASTMH Annual Meeting, poster, *New Orleans, LA* October 31, 2018
- d3.js Boulder Meetup, *Boulder, CO* August 30, 2018
- Int'l Conf. on Computational Social Science (IC2S2), *Northwestern University* July 14, 2018
- NetSci, *Paris, France* June 15, 2018
- Genetic Epidemiology of Malaria – poster [best poster award], *Sanger Institute, UK* June 13, 2018
- CompleNet, Network Science Institute at Northeastern University, *Boston, MA.* March 5, 2018
- Dynamical Systems Seminar, CU Boulder, *Boulder, CO.* Nov 2, 2017
- StatOptML Seminar, CU Boulder, *Boulder, CO.* Sept 12, 2017
- NetSci, *Indianapolis, IN.* June 21, 2017
- Complex Systems Summer School, Santa Fe Institute, *Santa Fe, NM.* June 14, 2017
- YConf, YCombinator Research, *San Francisco, CA.* June 10, 2017
- Santa Fe Science Writers' Workshop, Santa Fe Institute, *Santa Fe, NM.* May 2, 2017

- Outside In seminar, Santa Fe Institute, *Santa Fe, NM.* October 19, 2016
- Conference on Complex Systems (CCS), *Amsterdam, NL* September 22, 2016
- SIAM Network Science (SIAM NS16), *Boston, MA* July 15, 2016
- Int'l Conf. on Computational Social Science (IC2S2), *Northwestern University* June 24, 2016
- NetSci, *Seoul, Korea* June 2, 2016
- Int'l Conf. on the Science of Science, *Library of Congress, Washington D.C.* April 7, 2016
- Los Alamos Rotary Club, *Los Alamos, NM* March 15, 2016
- NetSci, *Zaragoza, Spain* June 3, 2015
- Freeman Symposium, *Harvard T. H. Chan School of Public Health* April 10, 2015
- Boston Area Parasitology Symposium (BAPS), *Boston, MA* December 8, 2014
- Defeating Malaria: from genes to the globe – poster *Harvard School of Public Health* December 2, 2014
- ASTMH – poster, *New Orleans, LA* November 4, 2014
- Harvard Channing Network Science Seminar, *Boston, MA.* October 31, 2014
- NetSci – poster [best poster award], *Berkeley, CA* June 4, 2014
- BioMalPar/EVIMalar, *EMBL, Heidelberg, Germany* May 13, 2014
- Network Frontiers Workshop, *NICO, Northwestern University* December 6, 2013
- ASTMH – poster, *Washington D.C.* November 15, 2013
- Oxford Tropical Network, *KEMRI, Kilifi, Oxford-Wellcome Trust, Kenya* October 1, 2013
- Networks Journal Club, *OCIAM, Oxford University, UK* March 8, 2013
- Dynamics Days – poster, *University of Colorado Boulder* January 3, 2013
- Freeman Symposium, *Harvard School of Public Health* December 14, 2012
- Ph.D. Dissertation Defense, *University of Colorado Boulder* April 5, 2012
- Front Range Applied Mathematics Student Conference, *Univ. of Colorado Denver* March 3, 2012
- Dynamics Days – poster, *University of Maryland* January 3, 2012
- Comprehensive Examination, *University of Colorado Boulder* September 27, 2011
- Front Range Applied Mathematics Student Conference, *Univ. of Colorado Denver* March 5, 2011
- Dynamics Days 2011, *Duke University* January 6, 2011
- Complex and Dynamical Systems Seminar, *University of Colorado Boulder* October 20, 2010
- Nonlinear Dynamics of Networks (NTD10) – poster, *University of Maryland* April 4, 2010
- Complex and Dynamical Systems Seminar, *University of Colorado Boulder* April 1, 2010
- Front Range Applied Mathematics Student Conference, *Univ. of Colorado Denver* March 6, 2010
- Dynamics Days 2010 – poster, *Northwestern University* January 3, 2010

Supported Workshops

- Model-Based Research and Reproducibility Workshop, Center for Open Science Feb 4-5, 2020
- Network Null Models Working Group, NIMBIOS Oct 23-26, 2019
- Decision Processes in Networks, Triennial Choice Symposium May 29-June 2, 2019
- The Dynamics of Discovery: Is Science Slowing and Can We Speed It Up? March 16-17, 2018

Affiliations, Accreditations

- Models of Infectious Disease Agent Study Network – Member 2020 - present
- Network Science Society – Member 2014 - present
- American Mathematical Society – Member 2014 - present
- American Society of Tropical Medicine and Hygiene – Member 2013 - present
- Society of Industrial and Applied Mathematics – Member 2008 - present
- NIH "Protecting Human Research Participants" – Certification 2016 - present
- Physical Review Letters – "Inhibition causes ceaseless…" – Editors' Suggestion April, 2014
- National Postdoctoral Association – Member 2012 - 2015
- Arts and Sciences Dean's Teaching Assistant Fellowship Spring 2010
- Colorado – Lead Teaching Assistant, Dept. of Applied Mathematics 2009 - 2010

Advising

Postdocs

- Dr. Katherine Wootton, Computer Science 2021 - 2022
- Dr. Eun Lee, Computer Science 2020 - 2022

PhD Students

- Tzu-Chi Yen, Computer Science (co-adv: Josh Grochow) 2018 - present
- K. Hunter Wapman, Computer Science 2019 - present
- Nicholas LaBerge, Computer Science (co-adv: Aaron Clauset) 2019 - present
- Ian van Buskirk, Computer Science (co-adv: Aaron Clauset) 2019 - present
- Kate Bubar, Computer Science 2020 - present
- Katherine Spoon, Computer Science (co-adv: Aaron Clauset) 2020 - present
- Casey Middleton, Computer Science 2021 - present
- Dr. Erik Johnson, Applied Mathematics 2019 - 2021
  Thesis: "Measuring image resolution in super-resoultion microscopy and Bayesian estimation of population size and overlap and vaccine effectiveness"

PhD Rotation Students (IQ Biology)

- Vanessa Maybruck 2022
- Casey Middleton 2021
- Sharon Wu 2020
- Elise Tate 2019
- Kate Bubar 2019
- Sierra Jech 2019
- Phillip Benson 2019
- Dieu My Nguyen 2018
- Michael Smallegan 2018

Masters Students

- Upasana Dutta, M.S. Computer Science, Colorado 2022
- Aaron Aaeng, M.S. Computer Science, Colorado 2020
  Thesis: "Matchbox: Adaptive Comparison Graphs for Restricted Tournaments"
- Marshall Y. Carpenter, M.S. Applied Math, Colorado 2012
  (Co-adv: Juan G. Restrepo, National Science Foundation, Mentoring Through Critical Transition Points)

Undergraduate Students

- Aloha Churchill, University of Colorado Boulder 2020 - 2021
- Suchita Lulla, University of Colorado Boulder 2018 - 2021
- Aparajithan Venkateswaran, University of Colorado Boulder 2018 - 2020
  Thesis: "Understanding SpringRank through Random Utility Models, Identifiability, and Online Updates"
  National Science Foundation REU
- Mark Wilmes, Computer Science 2019
  Thesis: "Using Machine Learning to Identify Files on Disk that Contain Sensitive Information"
- Suyog Soti, University of Colorado Boulder 2018 - 2019
- Katie Younglove, University of Colorado Boulder 2018 - 2019
  National Science Foundation REU
- Robert Steele, University of Colorado Boulder 2018
- Phuc Nguyen, Macalester College via the Santa Fe Institute 2017
- Maya Banks, Carleton College via the Santa Fe Institute 2017

High School Students

- William McKinnon, High School Student, Santa Fe Institute — 2016
- Kat Wicks, High School Student, Santa Fe Institute — 2015 - 2016

Teaching

University of Colorado Boulder — **Boulder, CO, USA**
- CSCI 2897 (Calculating Biological Quantities) — Fall 2022
- CSCI 2897 (Calculating Biological Quantities) — Fall 2021
- [new course] CSCI 2897 (Calculating Biological Quantities) — Spring 2021
- CSCI 5352 (Network Analysis and Modeling) — Fall 2020
- CSCI 5352 (Network Analysis and Modeling) — Fall 2019
- CSCI 4802/5802 (Data Science Team) — Fall 2019
- CSCI 4802/5802 (Data Science Team) — Spring 2019
- CSCI 5352 (Network Analysis and Modeling) — Fall 2018
- CSCI 3022 (Intro to Data Science with Probability and Statistics) — Fall 2018
- CSCI 3022 (Intro to Data Science with Probability and Statistics) — Spring 2018
- [new course] CSCI 3022 (Intro to Data Science with Probability and Statistics) — Fall 2017

How to Science (Series) — **Boulder, CO, USA**
- Data Visualization
- Giving a Talk
- Clean Code
- Peer Review
- LaTeX

Complex Networks Winter Workshop — **Quebec City, Quebec**
- Networks and hierarchies — Jan 6, 2021
  One 90 minute lecture
- Large-scale structures in networks: Hidden communities and latent hierarchies — Dec 15, 2019
  One 90 minute lecture; Five days of mentorship of graduate student research.

NetSci 2019 International Conference on Network Science — **Burlington, VT, USA**
- Large-scale structures in networks: Hidden communities and latent hierarchies — May 27, 2019
  One 90 minute lecture

Santa Fe Institute - Complex Systems Summer School — **Santa Fe, NM, USA**
- Networks & Hierarchies — June 24-25, 2019
  Two 90 minute lectures and one 90 minute workshop.
- Networks & Hierarchies — June 25-26, 2018
  Two 90 minute lectures and one 90 minute workshop.

University of Michigan — **Ann Arbor, MI, USA**
- Comp. Soc. Sci. Workshop (Communities, hierarchies: large-scale network structure) — Nov 10, 2017
  One 8-hour interactive workshop with lectures and interactive course material

Harvard School of Public Health — **Boston, MA, USA**
- Lecturer – CB399 Introduction to Modeling Infectious Disease (networks) — July 24 & 27, 2014
  One 75 minute lecture.

Kenya Medical Research Institute (KEMRI) — **Kilifi, Kenya**
- Lecturer – TDModNet Modeling Workshop (networks in genetics & epidemiology) — October 3, 2013
  One two-hour lecture and workshop.

University of Colorado - Predoctoral **Boulder, CO, USA**

- *Instructor of Record – APPM 2350,* Calculus III (Multivariable Calculus) Spring 2012
- *Instructor of Record – APPM 2350,* Calculus III (Multivariable Calculus) Fall 2011
- *Lead Teaching Asst.* – Applied Mathematics 2009 - 2010
- *Teaching Asst.* – APPM 1360, Calculus II Fall 2009
- *Teaching Asst.* – APPM 2360, Ordinary Differential Equations Spring 2009
- *Teaching Asst.* – APPM 2350, Calculus III (Multivariable Calculus) Fall 2008
- *Teaching Asst.* – APPM 2350, Calculus III (Multivariable Calculus) Summer 2008
- *Teaching Asst.* – APPM 2360, Ordinary Differential Equations Spring 2008
- *Teaching Asst.* – APPM 2350, Calculus III (Multivariable Calculus) Fall 2007

Editorial and Referee Work

Associate Editor

- PLOS Computational Biology 2022 - present

Guest Academic Editor

- PLOS Biology 2018

Grant Review

- NSF - Science of Science: Discovery, Communication and Impact (SBE)
- NSF - Science of Science and Information Policy (SBE)
- NSF - Dynamical Systems (DMS)
- NSF/NIH - Science of Science: Discovery, Communication, Impact & SCISIPBIO (SBE)

Journal Review

- ACM Transactions on Knowledge Discovery from Data (TKDD)
- American Journal of Epidemiology
- Communications of the ACM
- Europhysics Letters (EPL)
- IEEE Security and Privacy
- Journal of the Association for Information Science and Technology (JASIST)
- Journal of Complex Networks
- Journal of Infectious Diseases
- Journal of Machine Learning Research (JMLR)
- Journal of Statistical Mechanics: theory and experiment (JSTAT)
- Journal of Theoretical Biology
- Malaria Journal
- Methods in Ecology and Evolution
- Nature
- Nature Communications
- Nature Scientific Reports
- Nature Microbiology
- New England Journal of Medicine
- Physical Review Letters (PRL)
- Physical Review X (PRX)
- Physical Review E (PRE)
- Physical Review Research (PRR)
- Physica A
- PLOS Biology
- PLOS Computational Biology
- PLOS Neglected Tropical Diseases
- PLOS ONE

- Proceedings of the National Academy of Sciences of the USA (PNAS)
- Proceedings of the Royal Society A (Proc A)
- Proceedings of the Royal Society B (Proc B)
- Science
- Science Advances
- Science Translational Medicine
- SIAM Journal on Mathematics of Data Science (SIMODS)
- Vaccines
- Wellcome Open Research

Conference Review
- Program Committee, Atlanta Conference on Science and Innovation, ATLC 2023
- MIDAS Network Annual Meeting, 2022
- Program Committee, Int'l Conf. on Computational Social Science (IC2S2 2017, 2018, 2019, 2020, 2021)
- Program Committee, NetSci 2017, 2019, 2020, 2022, 2023
- Program Committee, ICWSM Workshop: Beyond Online Data: Tackling Challenging Social Science Questions
- Program Committee, 9th Int'l Conf. on Complex Networks (CompleNet 18, 2018)
- Program Committee, NetSciX 2018, 2020
- Program Committee, Int'l World Wide Web Conf. (WWW 17, 18)
- Program Committee, SIAM Network Science 2016 - 2019 (NS 16, 17, 18, 19)
- Program Committee, 9th Int'l Conf. on Web Search and Data Mining (WSDM 2016)
- Subreviewer, AAAI Conference on Artificial Learning (AAAI 2014)

University and Professional Service

Conferences, Workshops, Speaker Series (Organizer or co-organizer)

- *International Conference on the Science of Science & Innovation* — June 7-9, 2022
  Chair, Program Committee
  Nat'l. Acad. of Sciences, Washington D.C.
- *A New Synthesis for the Science of Science* — May 4-6, 2022
  Co-Organizer (with A. Clauset, M. Galesic)
  Santa Fe Institute, Santa Fe, NM
- *Statistical Inference for Network Models* - A Satellite Symposium of the NetSci Conference
  Creator and Organizer
  Rome, Italy (with T. Peixoto, T. Eliassi-Rad, B. Fosdick, and A. Clauset) — June, 2020
  Burlington, Vermont (with T. Eliassi-Rad, B. Fosdick, and A. Clauset) — May 27, 2019
  Paris, France (with T. Eliassi-Rad, B. Fosdick, and A. Clauset) — June 11, 2018
  Indianapolis, Indiana (with T. Broderick, B. Fosdick, and A. Clauset) — June 19, 2017
  Seoul, Korea (with B. Fosdick, A. Z. Jacobs, and A. Clauset) — May 31, 2016
  Zaragoza, Spain (with L. Peel, A. Z. Jacobs, and A. Clauset) — June 1, 2015
  Berkeley, California (with L. Peel, A. Z. Jacobs, and A. Clauset) — June 2, 2014
- *Slice of Science* — 2016 - 2017
  Organizer
  Santa Fe, NM. Ongoing Santa Fe Institute talk series.
- *Applied Network Science at Longwood Seminar Series, at Harvard School of Public Health.* — 2014 - 2015
  Conceived and organized with John Platig.
  Boston, MA, monthly seminar for network research with biological, public health, or medical application.
- *Harvard School of Public Health Infectious Disease Epidemiology Seminar Series* — 2014
  Organized with William Hanage.
  Boston, MA
- *Mathematics Research Community Workshop on Network Science* — June 24-30, 2014
  Assisting Aaron Clauset, Mason Porter, & David Kempe

Snowbird, UT

- *TDModNet Modeling Workshop* (networks in genetics & epidemiology) — Oct 3, 2013
  Organized with Caroline O. Buckee
  Kenya Medical Research Institute (KEMRI), Kilifi, Kenya
- *Front Range Applied Mathematics Student Conference* — March 14, 2009
  Organized with Daniel N. Kaslovsky, Anne Dougherty, *et al.*
  University of Colorado Denver
- *SIAM Graduate Student Chapter Speaker Series* — Spring 2009
  Co-organized with Daniel N. Kaslovsky
  University of Colorado Boulder

PhD Thesis Committees

Unless otherwise indicated, all committees listed include preliminary, comprehensive, and final defenses:

- David Greenblott, Chemical and Biological Engineering. Adv: Ted Randoph — Expected 2024
- Zach Maas, Molecular, Cellular, and Developmental Biology. Adv: Robin Dowell — Expected 2024
- Sam Zhang, Applied Mathematics. Adv: Aaron Clauset — Expected 2024
- Owen Martin, Computer Science. Adv: Orit Peleg — Expected 2024
- Lucas Hayne, Computer Science. Adv: McKell Carsten — Expected 2023
- Behzad Vahedi Torghabeh, Geography. Adv: Morteza Karimzadeh — Expected 2023
- Aislyn Keyes, Ecology & Evolutionary Biology. Adv: Laura Dee — 2023
- Graham Kesler O'Connor, Applied Mathematics. Adv: Manuel Lladser — 2022
- Nicholas Landry, Applied Mathematics. Adv: Juan G. Restrepo — 2022
- Samantha Molnar, Computer Science. Adv: Elizabeth Bradley — 2021
- Allison Morgan, Computer Science. Adv: Aaron Clauset — 2021
- Ignacio Tripodi, Computer Science. Adv: Robin Dowell — 2020
- Antony Pearson, Applied Mathematics, Adv: Manuel Lladser — 2020
- Lee Korshoj, Chem. & Biol. Engr. Adv: Anushree Chatterjee and Prashant Nagpal — 2020
- Richard Carter Tillquist, Applied Mathematics, Adv: Manuel Lladser — 2020
- Anna Broido, Computer Science. Adv: Aaron Clauset — 2019
- Amir Ghasemian, Computer Science. Adv: Aaron Clauset — 2018
- Jean-Gabriel Young, Physics, Université Laval, Adv: Louis Dube — 2018

Undergraduate Thesis Committees

All committees listed include preliminary and final defenses:

- Megan Hupka, Molecular, Cellular, and Dev. Biol. Adv: Luis Zea. & Louis Stodeick — 2023
- Kieran Zylstra, Computer Science, Adv: Ryan Layer — 2022
- Maxwell Wenzel, Computer Science. Adv: James Martin — 2020
- Ian Wilkins, Computer Science. Adv: James Martin — 2020
- Maxine Hartnett, Computer Science. Adv: Elizabeth Bradley — 2019
- Brandon Zink, Computer Science. Adv: Rhonda Hoenigman — 2019

Institutional Committees

- Univ. Colorado, Computer Science, Executive Committee — 2022 - present
- Univ. Colorado, Provost's Faculty Achievement Awards Committee — 2022 - 2023
- Univ. Colorado, CEAS Dean's Search Committee — 2022
- Univ. Colorado, Computer Science Pedagogy Committee — 2021 - 2022
- Univ. Colorado, Vaccine Policy & Guidance Subcommittee — 2021
- Univ. Colorado, COVID-19 Scientific Advisory Committee — 2020 - present
- Univ. Colorado, EMPOWERS Oversight Committee — 2020 - present
- Univ. Colorado, Computational Biology Minor, Curriculum Committee — 2019 - present
- Univ. Colorado, Computer Science Faculty Search Committee — 2019 - 2020
- Univ. Colorado, Interdisc. Quant. Biol. Program (IQBio), Acad. Advising Committee — 2018 - 2020
- Univ. Colorado, BioFrontiers Institute, Council (Formerly called Task Force) — 2017 - present

- Univ. Colorado, Interdisc. Quant. Biol. Program (IQBio), Curriculum Committee 2017 - present
- Univ. Colorado, Computer Science, Undergraduate Curriculum Committee 2018 - 2019
- Univ. Colorado, BioFrontiers Institute, Social Committee (BioFunTiers) 2017 - 2018
- Univ. Colorado, Interdisciplinary Quant. Biol. Program (IQBio), Grad. Admissions 2017 - 2018
- Santa Fe Institute, Complex Systems Summer School Admissions 2016 - 2017
- Santa Fe Institute, Omidyar Fellowship Review & Selection 2015 - 2016
- Univ. Colorado, Office of Discrimination and Harassment Review 2010 - 2012
- Univ. Colorado, SIAM Graduate Student Chapter 2008 - 2010

Outreach Talks and Lectures

- "What I know now that I wish I'd known as a postdoc" October 20, 2022
  Santa Fe Institute
  JSMF – SFI Postdocs in Complexity Conference IX
- Science of Science Summer School (S4), Syracuse University August 8, 2022
  Mentor
- "Prioritizing Vaccines: Who Should Get Them First and Why?" November 20, 2020
  BioFrontiers Institute Community COVID-19 Session III
- "COVID-19 Surveillance Testing: A Way Out?" September 17, 2020
  College of Engineering & Applied Sciences CU Boulder COVID-19 Webinar
- "How do infectious disease models work?" April 13, 2020
  BioFrontiers Institute Community COVID-19 Session I
- "What it is to be a Scientist" May 4, 2016
  Santa Fe Institute
  Keynote, SFI High School Prize for Scientific Excellence
- "What it is to be a Scientist" 2016-2019
  Santa Fe Institute
  REU Program Mentorship

Other Service & Outreach

Faculty Sanity **Boulder, CO**
A monthly, open, unstructured meetup for junior faculty at CU Boulder, all departments.
Founder, Organizer 2018 - 2021

March for Science - Santa Fe **Santa Fe, NM**
Lead Organizer April 22, 2017

New Mexico Corrections / Penitentiary of New Mexico **Santa Fe, NM**
Volunteer math teacher and tutor January 2016 - May 2017

Santa Fe Alliance for Science **Santa Fe, NM**
Science fair judge 2015 - 2017

Greater University Service Foundation, Inc. **St. Louis, MO**
Director 2008 - 2022
Co-founder and Secretary 2006 - 2008

The Boulder County AIDS Project **Boulder, CO**
Volunteer math tutor; grocery packing and delivery. 2005 - 2011