Curriculum Vitae

Daniel B. Larremore

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Contact Information

BioFrontiers Institute
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Google Scholar: here
Github: @DBLarremore

Education

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

University of Colorado Boulder, Department of Applied Mathematics — 2009
M.S. in Applied Mathematics

Washington University in St. Louis, School of Engineering and Applied Science — 2005
B.S. in Chemical Engineering, *cum laude*

Academic Positions

University of Colorado — Boulder, CO
Assistant Professor, BioFrontiers Institute — 2017 - Present
Assistant Professor, Computer Science — 2017 - Present
Affiliate Faculty, Applied Mathematics — 2020 - Present

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

Harvard School of Public Health, Center for Communicable Disease Dynamics — Boston, MA
Postdoctoral Fellow with Caroline Buckee (HSPH) and Aaron Clauset (Colorado) — 2012 - 2015

University of Colorado — Boulder, CO
Research Assistant with advisor Juan G. Restrepo (Colorado) — 2009 - 2012
Research Assistant and Mentor, MCTP Program - NSF DMS-060228 — June 2010 - May 2011

Industry Experience

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

Barry Z. Cynamon Consulting — San Francisco, CA
Scientific and Technical Consultant — 2016 - 2017

Peer-Reviewed Publications

1. † 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). [link]
2. 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).
3. 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).
4. **D. B. Larremore**. "Bayes-optimal estimation of overlap between populations of fixed size." *PLOS Computational Biology* 15(3): e1006898. (2019).
5. 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). [link]
6. C. De Bacco*, **D. B. Larremore***, C. Moore. "A physical model for efficient ranking in networks." *Science Advances 4*(7) eaar8260 (2018). [link]
7. † 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). [link]
8. 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). [link] [Also accepted at *ICWSM 2017*, social science track (non-archival).]
9. L. Peel*, **D. B. Larremore***, A. Clauset. "The ground truth about metadata and community detection in networks." *Science Advances* 3(5) e1602548 (2017).
10. 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).
11. 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).
12. **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).
13. A. Clauset, S. Arbesman, **D. B. Larremore**, "Systematic inequality and hierarchy in faculty hiring networks." *Science Advances,* 1, e1400005 (2015).
14. 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).
15. **D. B. Larremore,** A. Clauset, and A. Z. Jacobs, "Efficiently inferring community structure in bipartite networks." *Physical Review E,* 90(1), 012805 (2014).
16. **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).
17. **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).
18. **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).
19. **D. B. Larremore**, M. Y. Carpenter, E. Ott, and J. G. Restrepo, "Statistical properties of avalanches in networks." *Physical Review E* 85, 066131 (2012).
20. **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).
21. **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).

*equal contribution
† alphabetical author order

Submitted or In-Press Publications

22. A. Patania, B. McShane, B. Falk, D. B. Larremore, E. McDonnell Feit, E. Bruch, F. Feinberg, J. Helveston, M. Small, M. Braun, N. Fefferman, Choice Symposium Working Paper. *Submitted* (2019).
23. 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." *Submitted* (2020).
24. K. Finlinson, W. L. Shew, D. B. Larremore, J. G. Restrepo. Control of excitable systems is optimal near criticality. *Submitted* (2019).
25. T.-C. Yen, D. B. Larremore. Community Detection in Bipartite Networks with Stochastic Blockmodels. *Submitted* (2020).
26. 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." *In Press* (2020).
27. D. B. Larremore, K. Joseph, A. Hannak, A. Cimpian, "Explaining Gender Differences in Academics' Career Trajectories." *Submitted* (2020).
28. Daniel B. Larremore, Bailey K. Fosdick, Kate M. Bubar, Sam Zhang, Stephen M. Kissler, C. Jessica E. Metcalf, Caroline O. Buckee, Yonatan H. Grad. "Estimating SARS-CoV-2 seroprevalence and epidemiological parameters with uncertainty from serological surveys." *Submitted* (2020).
29. Daniel B. Larremore, Kate M. Bubar, Yonatan H. Grad. "Implications of test characteristics and population seroprevalence on 'immune passport' strategies." *Submitted* (2020).
30. Stephen M. Kissler*, Nishant Kishore*, Malavika Prabhu*, Dena Goffman*, Yaakov Beilin*, Ruth Landau, Cynthia Gyamfi-Bannerman, Brian T. Bateman, Daniel Katz, Jonathan Gal, Angela Bianco, Joanne Stone, Daniel B Larremore. Caroline O. Buckee, Yonatan H. Grad. "Reductions in commuting mobility predict geographic differences in SARS-CoV-2 prevalence in New York City." *Submitted* (2020).

* equal contribution
† alphabetical author order

Perspectives, Essays, and Other Publications

1. **D. B. Larremore**, A. C. Morgan, A. Clauset. "More Inclusive Scholarship Begins With Active Experimentation." *The Chronicle of Higher Education,* 1 November, 2017. [invited letter] [link]
2. **D. B. Larremore**, A. Clauset. "Why predicting the future is more than just horseplay." *The Christian Science Monitor,* 24 April, 2017. [contributed essay] [link]
3. A. Clauset, **D. B. Larremore**, R. Sinatra. "Data-driven predictions in the science of science." *Science* 355, 477-480 (2017). [invited perspective piece]
4. D. E. Geer Jr. and **D. B. Larremore**, "Progress is Infectious." *IEEE Security & Privacy* 10(6) p. 94-95 (2012). [monthly column of D. E. Geer Jr.]
5. † 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 here via arXiv.org.

* equal contribution
† alphabetical author order

Book Chapters

1. 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).
2. **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).

Funding

"Mapping the Structure and Dynamics of the Scientific Ecosystem." 2019-2022
PI, with Aaron Clauset (co-I; Colorado), and Mirta Galesic and Jennifer Dunne (co-Is, Santa Fe Institute)
19RT0301. DoD Minerva, $2,568,889.

"Academic hiring networks and scientific productivity across disciplines." 2016-2020
PI, with Mirta Galesic (co-PI; Santa Fe Institute) and Aaron Clauset (PI; Colorado)
SMA 1633747. NSF SBE, $550,000.

"Models of Infections Disease Agents Study Center for Communicable Disease Dynamics"
Consultant, with Marc Lipsitch (PI; Harvard School of Public Health).
U54 GM088558. NIH NIGMS, $11,279,771 2015-2019

"Network Assortativity" collaboration grant
Proposer, with Bailey Fosdick (Colorado State), Joel Nishimura (Arizona State), and Johan Ugander (Microsoft Research)
Amer. Mathematical Soc. (AMS) Mathematical Research Communities, $2,250 2014

Invited Talks

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

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

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

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

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

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

- "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
• "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
• "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

Other Invited Talks and Presentations (unsupported)

• "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, math, and malaria: from evolution to epidemiology"
Applied Math Colloquium, *University of Colorado Boulder*, Boulder, CO January 17, 2019
• Panelist: "Development of Trustworthy AI"
Mozilla Foundation & CU Data Science Team, Boulder, CO October 8, 2019
• Paper Unwind: "The misleading narrative of the canonical faculty productivity trajectory"
CompleNet, Boston, MA March 4, 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
• "A physical model for efficient ranking in networks"
Special Session: Network Science,
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
• "The dynamics of beneficial epidemics."
Dynamics of/on Complex Networks Satellite Symp., *NetSci 2017,* Indianapolis, IN June 20, 2017
• "Gender, prestige, and productivity in faculty hiring networks."
Quantifying Success Satellite Symposium, *NetSci 2016*, Seoul, Korea June 1, 2016
• "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
• "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

- 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

Awards, Affiliations, Accreditations

- Research & Innovation Office Faculty Fellow 2020
- 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
- Genetic Epidemiology of Malaria – Best Poster June, 2018
- NIH "Protecting Human Research Participants" – certification June, 2016
- NetSci 2014 – Best Poster June, 2014
- "Inhibition causes ceaseless…" – *Physical Review Letters* Editors' Suggestion April, 2014
- Arts and Sciences Dean's Teaching Assistant Fellowship Spring 2010
- Dynamics Days 2010 – Best Poster January, 2010
- Lead Teaching Assistant, Dept. of Applied Mathematics 2009 - 2010
- National Postdoctoral Association – Member 2012 - 2015

Advising

Postdocs
- Eun Lee, Computer Science 2020 - present

PhD Students
- Tzu-Chi Yen, Computer Science 2018 - present
- K. Hunter Wapman, Computer Science 2019 - present
- Erik Johnson, Applied Mathematics 2019 - present
- Nicholas LaBerge, Computer Science 2019 - present
- Ian van Buskirk, Computer Science 2019 - present
- Michael Hoefer, Computer Science 2019 - present
- Katherine Spoon, Computer Science 2020 - present

PhD Rotation Students (IQ Biology)
- Sharon Wu 2020
- Elise Tate 2019
- Kate Bubar 2019
- Sierra Jech 2019
- Phillip Benson 2019
- Dieu My Nguyen 2018
- Michael Smallegan 2018

Masters Students
- Aaron Aaeng, M.S. Computer Science, Colorado 2019 - present
- Upasana Dutta, M.S. Computer Science, Colorado 2020 - present

- Marshall Y. Carpenter, M.S. Applied Math, Colorado — 2012
  (Co-adv: Juan G. Restrepo, NSF MCTP)

Undergraduate Students

- Suchita Lulla, University of Colorado Boulder — 2018 - present
- Aparajithan Venkateswaran, University of Colorado Boulder, NSF REU — 2018 - present
- Suyog Soti, University of Colorado Boulder — 2018 - 2019
- Katie Younglove, University of Colorado Boulder, NSF REU — 2018 - 2019
- 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 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

Complex Networks Winter Workshop — Quebec City, Quebec

- Large-scale structures in networks: Hidden communities and latent hierarchies — Dec 15, 2019

NetSci 2019 International Conference on Network Science — Burlington, VT, USA

- Large-scale structures in networks: Hidden communities and latent hierarchies — May 27, 2019

Santa Fe Institute - Complex Systems Summer School — Santa Fe, NM, USA

- Networks & Hierarchies — June 24-25, 2019
- Networks & Hierarchies — June 25-26, 2018

University of Michigan — Ann Arbor, MI, USA

- Comp. Soc. Sci. Workshop (Communities, hierarchies: large-scale network structure) — Nov 10, 2017

Harvard School of Public Health — Boston, MA, USA

- *Lecturer – CB399 Introduction to Modeling Infectious Disease* (networks) — July 24 & 27, 2014

Kenya Medical Research Institute (KEMRI) — Kilifi, Kenya

- *Lecturer – TDModNet Modeling Workshop* (networks in genetics & epidemiology) — October 3, 2013

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

Guest Academic Editor
- PLOS Biology

Grant Review
- NSF - Science of Science and Information Policy (SciSIP)
- NSF - Division of Mathematical Sciences - Dynamical Systems (DMS)
- NSF/NIH - Science of Science: Discovery, Communication, Impact & SCISIPBIO

Journal Review
- ACM Transactions on Knowledge Discovery from Data (TKDD)
- Europhysics Letters (EPL)
- IEEE Security and Privacy
- Journal of Complex Networks
- Journal of Machine Learning Research (JMLR)
- Journal of Statistical Mechanics: theory and experiment (JSTAT)
- Journal of the Association for Information Science and Technology (JASIST)
- Malaria Journal
- Methods in Ecology and Evolution
- Nature Scientific Reports
- Nature Microbiology
- 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)
- Science Advances
- SIAM Journal on Mathematics of Data Science (SIMODS)
- Wellcome Open Research

Conferences
- Program Committee, Int'l Conf. on Computational Social Science (IC2S2 2017, 2018, 2019, 2020)
- Program Committee, NetSci 2017, 2019, 2020
- Program Committee, ICWSM Workshop: Beyond Online Data: Tackling Challenging Social Science Questions
- Program Committee, 9th Int'l Conf. on Complex Networks (CompleNet 18)
- 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)

- *Statistical Inference for Network Models* - A Satellite Symposium of the NetSci Conference.
  - 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
  - Santa Fe, NM. Ongoing Santa Fe Institute talk series.
  - Organizer
- *Applied Network Science at Longwood Seminar Series, at Harvard School of Public Health.* — 2014 - 2015
  - Boston, MA, monthly seminar for network research with biological, public health, or medical application.
  - Conceived and organized with John Platig.
- *Harvard School of Public Health Infectious Disease Epidemiology Seminar Series* — 2014
  - Boston, MA
  - Organized with William Hanage.
- *Mathematics Research Community Workshop on Network Science* — June 24-30, 2014
  - Snowbird, UT
  - Assisting Aaron Clauset, Mason Porter, & David Kempe.
- *TDModNet Modeling Workshop* (networks in genetics & epidemiology) — Oct 3, 2013
  - Kenya Medical Research Institute (KEMRI), Kilifi, Kenya.
  - Organized with Caroline O. Buckee
- *Front Range Applied Mathematics Student Conference* — March 14, 2009
  - University of Colorado Denver.
  - Organized with Daniel N. Kaslovsky, Anne Dougherty, *et al.*
- *SIAM Graduate Student Chapter Speaker Series* — Spring 2009
  - University of Colorado Boulder.
  - Co-organized with Daniel N. Kaslovsky.

PhD Thesis Committees

- Aislyn Keyes, Ecology & Evolutionary Biology. Adv: Laura Dee — Expected 2023
- Allison Morgan, Computer Science. Adv: Aaron Clauset — Expected 2021
- Ignacio Tripodi, Computer Science. Adv: Robin Dowell — Expected 2020
- Antony Pearson, Applied Mathematics, Adv: Manuel Lladser — Expected 2020
- Samantha Molnar, Computer Science. Adv: Elizabeth Bradley — Expected 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

- Maxwell Wenzel, Computer Science. Adv: James Martin — Expected 2020
- Ian Wilkins, Computer Science. Adv: James Martin — Expected 2020
- Mark Wilmes, Computer Science. Daniel Larremore — 2019
- Maxine Hartnett, Computer Science. Adv: Elizabeth Bradley — 2019
- Brandon Zink, Computer Science. Adv: Rhonda Hoenigman — 2019

Institutional Committees

- Colorado, Computer Science Faculty Search Committee — 2019-2020

- Colorado, Interdisc. Quant. Biol. Program (IQBio), Academic Advising Committee 2018 - present
- Colorado, BioFrontiers Institute, Council (Formerly called Task Force) 2017 - present
- Colorado, Interdisc. Quant. Biol. Program (IQBio), Curriculum Committee 2017 - present
- Colorado, Computer Science, Undergraduate Curriculum Committee 2018 - 2019
- Colorado, BioFrontiers Institute, Social Committee (BioFunTiers) 2017 - 2018
- 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
- Colorado, Office of Discrimination and Harassment Review 2010 - 2012
- Colorado, SIAM Graduate Student Chapter 2008 - 2010

Outreach

- "How do infectious disease models work?" April 13, 2020
  BioFrontiers Institute Community COVID-19 Session
- "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 - present

March for Science - Santa Fe Santa Fe, NM
Lead Organizer April 22, 2017
- Live radio appearance - Honey Harris - KBAC 98.1 Santa Fe, NM March 21, 2017
- Live radio appearance - Ira Gordon - KBAC 98.1 Santa Fe, NM March 24, 2017
- Recorded radio appearance - Gillian Sutton - KRSN 107.1/1490 Los Alamos, NM April 18, 2017
- Live radio appearance - Rita Daniels - KNCE 93.5 Taos, NM April 19, 2017
- Live radio appearance - Richard Eeds - KVSF 101.5 Santa Fe, NM April 19, 2017
- Live Radio appearance - Honey Harris - KBAC 98.1 Santa Fe, NM April 20, 2017
- Recorded radio appearance - KSFR 101.1 public radio, Santa Fe, NM April 24, 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 - present
Co-founder and Secretary 2006 - 2008

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