Curriculum Vitae

Daniel B. Larremore

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Contact Information

BioFrontiers Institute
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Google Scholar: here
Github: here

Research Interests

- Network science (dynamics, structure, inference, applications)
- Recombinant genetics and evolution of the malaria parasite *P. falciparum*.
- The science of science: formation and evolution of patterns in academic science.

Education

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

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

Washington University in St. Louis, School of Engineering and Applied Science — May, 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

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

19. Lauren M. Childs, **D. B. Larremore**, "Network models for malaria: antigens, dynamics, and evolution over space and time." *Submitted* (2019).
20. S. F. Way, A. C. Morgan, **D. B. Larremore***, A. Clauset*, "Productivity, prominence, and the effects of academic environment." *To appear in the Proceedings of the National Academy of Sciences, USA* (2019).

21. † 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." *Submitted* (2018). Available here via arXiv.org.
22. 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* (2018).
23. K. H. Wapman, **D. B. Larremore**. "webweb: a tool for creating, displaying, and sharing interactive network visualizations on the web." *Submitted* (2019).

* 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

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." 2016-2019
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).
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

- "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)

- 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

- 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, *OCLAM, 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

Awards, Affiliations, Accreditations

- Genetic Epidemiology of Malaria – Best Poster — June, 2018
- NIH "Protecting Human Research Participants" – certification — June, 2016
- Network Science Society – Member — 2014 - present
- American Mathematical Society – Member — 2014 - present
- American Society of Tropical Medicine and Hygiene – Member — 2013 - present
- National Postdoctoral Association – Member — 2012 - present
- Society of Industrial and Applied Mathematics – Member — 2008 - present
- 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

Advising

PhD Students

- Tzu-Chi Yen — 2018 - present

PhD Rotation Students

- Sierra Jech, IQBiology — January, 2019
- Phillip Benson, IQBiology — January, 2019
- Dieu My Nguyen, IQBiology — January, 2018
- Michael Smallegan, IQBiology — January, 2018

Masters Students

- K. Hunter Wapman, M.S. Computer Science, Colorado — 2019 - 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
- Katie Younglove, University of Colorado Boulder, NSF REU — 2018 - present
- Suyog Soti, University of Colorado Boulder — 2018 - present
- Aparajithan Venkateswaran, University of Colorado Boulder, NSF REU — 2018 - present
- Robert Steele, University of Colorado Boulder — Spring 2018
- Phuc Nguyen, Macalester College — Summer 2017

Santa Fe Institute, NSF REU Co-adv: Cris Moore and Caterina De Bacco
Inferring Hierarchy Structure from Rankings Uncertainty.

- Maya Banks, Carleton College — Summer 2017
  REU Santa Fe Institute, Co-adv: Cris Moore and Caterina De Bacco
  Emergence of Hierarchy in Complex Networks.

High School Students

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

Teaching

University of Colorado Boulder — Boulder, CO, USA

- 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

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

- 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

Referee Work

Grant Review

- National Science Foundation - Science of Science and Information Policy (SciSIP)
- National Science Foundation - Division of Mathematical Sciences - Dynamical Systems (DMS)

Journals

- 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)
- 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

Conferences
- Program Committee, 5th Int'l Conf. on Computational Social Science (IC2S2 2019)
- Program Committee, NetSci 2019
- Program Committee, ICWSM Workshop: Beyond Online Data: Tackling Challenging Social Science Questions
- Program Committee, 4rd Int'l Conf. on Computational Social Science (IC2S2 2018)
- Program Committee, 9th Int'l Conf. on Complex Networks (CompleNet 18)
- Program Committee, NetSciX 2018 - Shanghai
- Program Committee, 27th Int'l World Wide Web Conf. (WWW18)
- Program Committee, 3rd Int'l Conf. on Computational Social Science (IC2S2 2017)
- Program Committee, NetSci 2017
- Program Committee, 26th Int'l World Wide Web Conf. (WWW17)
- Program Committee, SIAM Network Science 2016 - 2018 (NS16, NS17, NS18)
- 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* June 11, 2018
  Paris, France, Satellite Symposium of NetSci 2018.
  Organized with Tina Eliassi-Rad, Bailey Fosdick, and Aaron Clauset.
- *Statistical Inference for Network Models* June 19, 2017
  Indianapolis, Indiana, Satellite Symposium of NetSci 2017.
  Organized with Tamara Broderick, Bailey Fosdick, and Aaron Clauset.
- *Slice of Science* 2016 - 2017
  Santa Fe, NM. Ongoing Santa Fe Institute talk series.
  Organizer
- *Statistical Inference for Network Models* May 31, 2016
  Seoul, Korea, Satellite Symposium of NetSci 2016.
  Organized with Bailey Fosdick, Abigail Z. Jacobs, and Aaron Clauset.
- *Statistical Inference for Network Models* June 1, 2015
  Zaragoza, Spain, Satellite Symposium of NetSci 2015.
  Organized with Leto Peel, Abigail Z. Jacobs, and Aaron Clauset.
- *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.

- *Statistical Inference for Network Models* June 2, 2014
  Berkeley, CA, Satellite Symposium of NetSci 2014
  Organized with Leto Peel, Abigail Z. Jacobs, and Aaron Clauset.
- *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

- Emerson Grey, Chem/Bio Engineering. Adv: Prashant Nagpal Expected 2021
- Ignacio Tripodi, Computer Science. Adv: Robin Dowell Expected 2021
- Allison Morgan, Computer Science. Adv: Aaron Clauset Expected 2021
- Kathleen Finlinson, Computer Science, Adv: Juan G. Restrepo Expected 2020
- Antony Pearson, Applied Mathematics, Adv: Manuel Lladser Expected 2020
- Richard Carter Tillquist, Applied Mathematics, Adv: Manuel Lladser Expected 2020
- Samantha Molnar, Computer Science. Adv: Elizabeth Bradley Expected 2020
- Anna Broido, Computer Science. Adv: Aaron Clauset Expected 2019
- Lee Korshoj, Chem. & Biol. Engr. Adv: Anushree Chatterjee and Prashant Nagpal Expected 2019
- Amir Ghasemian, Computer Science. Adv: Aaron Clauset 2018
- Jean-Gabriel Young, Physics, Université Laval, Adv: Louis Dube 2018

Undergraduate Thesis Committees

- Mark Wilmes, Computer Science. Adv: Daniel Larremore Expected 2019
- Maxine Hartnett, Computer Science. Adv: Elizabeth Bradley Expected 2019
- Brandon Zink, Computer Science. Adv: Rhonda Hoenigman Expected 2019

Institutional Committees

- Colorado, Computer Science, Undergraduate Curriculum Committee 2018 - present
- 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, 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

- "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" 2016-2018
  Santa Fe Institute
  REU Program Mentorship

Other Service & Outreach

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