

JEAN-GABRIEL YOUNG

Assistant Professor

Department of Mathematics and Statistics
Vermont Complex Systems Institute
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RESEARCH INTERESTS: Computational Statistics, Complex Systems, Forecasting, Epidemiology

PROFESSIONAL EXPERIENCE

- *University of Vermont*, Assistant Professor, [Department of Mathematics and Statistics](#)^{*} 2021–
- *Université Laval*, Professeur Associé [Département de Physique](#) 2020–
- *Complex Data LLC*, Consulting 2024–
- *University of Vermont*, Research Assistant Professor, [Department of Computer Science](#) 2020–2021
- *University of Michigan*, Postdoctoral Fellow, [Center for the Study of Complex Systems](#) 2018–2020
- *Université Laval*, Research Assistant, [Group of Prof. Louis. J. Dubé](#) 2012–2018

EDUCATION

- Ph.D. in Physics*, *Université Laval* 2014–2018
- *Thesis title*: Inférence et réseaux complexes[†]
 - *Advisors*: Louis J. Dubé and Patrick Desrosiers
- M.Sc. in Physics*, *Université Laval* 2012–2014
- *Thesis title*: De la détection de la structure communautaire des réseaux complexes[‡]
 - *Advisors*: Louis J. Dubé
- B.Sc. in Physics*, Theoretical Physics major, *Université Laval* 2009–2012

SCHOLARSHIPS, GRANTS AND AWARDS

Grants

- [EPSCoR Pilot Award](#). “A Data-Driven Framework for Prediction Market Aggregation” (\$22,950, PI) 2025
- [NSF](#). “Altruistic stress, economic networks, and endogenous organizational change” (\$399,653, co-PI) 2024
- [NSF](#). “Contagion on Complex Social Systems Conference” (\$47,838, PI) 2023
- *James Jeffords Grant*, [University of Vermont](#). “Vermont Open Source Connector” (\$4,600, PI) 2023
- *OVPR Express Grant*, [University of Vermont](#). “Choice Theory in Networks Workshop” (\$3,000, PI) 2021
- *YRNCS Bridge Grant*, [YRCSS](#). “Simplicial Configuration Models” (€1,000, PI) 2016

Fellowships and Scholarships

- *Postdoctoral Fellowship in Studying Complex Systems*, [James S. MacDonnell Foundation](#) (\$200,000) 2017
- *Doctoral Research Scholarship*, [Fonds de recherche du Québec – Nature et Technologies](#) (\$60,000) 2014

^{*}Secondary appointment with: Vermont Complex Systems Institute, Larner College of Medicine, Department of Computer Science

[†]Inference and complex networks

[‡]Of community structure detection on complex networks

Awards

- *FOSS Award*, 2021 Mining Software Repositories Conference 2021
- *Zachary Karate Club Club* award 2021
- *Best oral presentation award*, NERCCS 2020 2020
- *Board of Honour* (Highest overall mark award by all committee members), Ph.D thesis, Université Laval 2018

PUBLICATIONS

Peer-reviewed journals

39. [One pathogen does not an epidemic make: A review of interacting contagions, diseases, beliefs and stories](#) 2025
L. Hébert-Dufresne, Y.-Y. Ahn, A. Allard, V. Colizza, J. W. Crothers, P. Sheridan Dodds, M. Galesic, F. Ghanbarnejad, D. Gravel, R. A. Hammond, K. Lerman, J. Lovato, J. J. Openshaw, S. Redner, S. V. Scarpino, G. St-Onge, T. R. Tangherlini, and **J.-G. Young**
npj Complexity 2, 26
38. [Symmetry-driven embedding of complex networks in hyperbolic space](#) 2025
S. Lizotte, **J.-G. Young**, and A. Allard
Commun. Phys. 8, 199
37. [Governance as a complex, networked, democratic, satisfiability problem](#) 2025
L. Hébert-Dufresne, N. W. Landry, J. Lovato, J. St-Onge, **J.-G. Young**, M.-E. Couture-Ménard, S. Bernatchez, C. Choquette, and A. A. Cohen
npj Complexity 2, 14
36. [Reconstructing networks from simple and complex contagions](#) 2024
N. W. Landry, W. Thompson, L. Hébert-Dufresne, and **J.-G. Young**
Phys. Rev. E 110, L042301
35. [Network compression with configuration models and the minimum description length](#) 2024
L. Hébert-Dufresne, **J.-G. Young**, A. Daniels, and A. Allard
Phys. Rev. E 110, 034305
34. [The simpliciality of higher-order networks](#) 2024
N. W. Landry, **J.-G. Young**, and N. Eikmeier
EPJ Data Sci. 13, 17
33. [Hypergraph reconstruction from uncertain data](#) 2023
S. Lizotte, **J.-G. Young**, and A. Allard
Sci. Rep. 13, 21364
32. [Accurately summarizing an outbreak using epidemiological models takes time](#) 2023
B. K. M. Case, **J.-G. Young**, and L. Hébert-Dufresne
R. Soc. Open Sci. 10, 230634
31. [Opposing responses to scarcity emerge from functionally unique sociality drivers](#) 2023
A. B. Kao, A. K. Hund, F. P. Santos, **J.-G. Young**, D. Bhat, J. Garland, R. A. Oomen, and H. F. McCreery
Am. Nat. 202, 3
30. [Exact and rapid linear clustering of networks with dynamic programming](#) 2023
A. Patania, A. Allard, and **J.-G. Young**
Proc. R. Soc. A 479, 2275
29. [Compressing network populations with modal networks reveals structural diversity](#) 2023
A. Kirkley, A. Rojas, M. Rosvall, and **J.-G. Young**
Commun. Phys. 6, 148
28. [Latent network models to account for noisy, multiply-reported social network data](#) 2023
C. De Bacco, M. Contisciani, J. Cardoso-Silva, H. Safdari, D. Theuerkauf, T. Sweet, **J.-G. Young**, J. Koster, C. Ross, R. McElreath, D. Redhead, and E. A. Power
J. R. Stat. Soc. A 186, 355–375
27. [Spatial epidemiology and adaptive targeted sampling to manage the Chagas disease vector Triatoma dimidiata](#) 2022
B. K. M. Case, **J.-G. Young**, D. Penados, L. Hébert-Dufresne, and L. Stevens
PLOS Negl. Trop. Dis. 16, e0010436

26. [Impact and dynamics of hate and counter speech online](#) 2022
J. Garland, K. Ghazi-Zahedi, **J.-G. Young**, L. Hébert-Dufresne, and M. Galesic
EPJ Data Sci. 11, 3
25. [Clustering of heterogeneous populations of networks](#) 2022
J.-G. Young, A. Kirkley, and M. E. J. Newman
Phys. Rev. E 105, 014312
24. [Reconstruction of plant–pollinator networks from observational data](#) 2021
J.-G. Young, F. S. Valdovinos, and M. E. J. Newman
Nat. Commun. 12, 3911
23. [Hypergraph reconstruction from network data[§]](#) 2021
J.-G. Young, G. Petri, and T. P. Peixoto
Commun. Phys. 4, 135
22. [A clarified typology of core-periphery structure in networks](#) 2021
R. J. Gallagher, **J.-G. Young**, and B. Foucault Welles
Sci. Adv. 7, eabc9800
21. [Bayesian inference of network structure from unreliable data](#) 2021
J.-G. Young, G. T. Cantwell, and M. E. J. Newman
J. Complex. Netw. 8, cnaa046
20. [Inference, model selection, and the combinatorics for growing trees](#) 2021
G. T. Cantwell, G. St-Onge, and **J.-G. Young**
Phys. Rev. Lett. 126, 038301
19. [Networks beyond pairwise interactions: structure and dynamics \(review\)](#) 2020
F. Battiston, G. Cencetti, I. Iacopini, V. Latora, M. Lucas, A. Patania, **J.-G. Young**, and G. Petri
Phys. Rep. 874
18. [Improved mutual information measure for classification and community detection](#) 2020
M. E. J. Newman, G. T. Cantwell, and **J.-G. Young**
Phys. Rev. E 101, 042304
17. [Macroscopic patterns of interacting contagions are indistinguishable from social reinforcement](#) 2020
L. Hébert-Dufresne, S. V. Scarpino, and **J.-G. Young**
Nat. Phys. 16, 426
16. [Phase transition in the recoverability of network history](#) 2019
J.-G. Young, G. St-Onge, E. Laurence, C. Murphy, L. Hébert-Dufresne, and P. Desrosiers
Phys. Rev. X 9, 041056
15. [Efficient sampling of spreading processes on complex networks using a composition and rejection algorithm](#) 2019
G. St-Onge, **J.-G. Young**, L. Hébert-Dufresne, and L. J. Dubé
Comput. Phys. Commun. 240, 30
14. [Universality of the stochastic block model](#) 2018
J.-G. Young, G. St-Onge, P. Desrosiers, and L.J.Dubé
Phys. Rev. E 98, 032309
13. [Exact analytical solution of irreversible binary dynamics on networks](#) 2018
E. Laurence, **J.-G. Young**, S. Melnik, and L.J.Dubé
Phys. Rev. E 97, 032302
12. [Phase transition of the susceptible-infected-susceptible dynamics on time-varying configuration model networks](#) 2018
G. St-Onge, **J.-G. Young**, E. Laurence, C. Murphy, and L. J. Dubé
Phys. Rev. E 97, 022305
11. [Construction of and efficient sampling from the simplicial configuration model](#) 2017
J.-G. Young, G. Petri, F. Vaccarino, and A. Patania
Phys. Rev. E 96, 032312
10. [Strategic tradeoffs in competitor dynamics on adaptive networks](#) 2017
L. Hébert-Dufresne, A. Allard, P.-A. Noël, **J.-G. Young**, and E. Libby
Sci. Rep. 7, 7576

[§]Appears in the Focus Collection on Higher-order Interaction Networks

9. [Finite size analysis of the detectability limit of the stochastic block model](#) 2017
J.-G. Young, P. Desrosiers, L. Hébert-Dufresne, E. Laurence, and L. J. Dubé
Phys. Rev. E 95, 062304
8. [Growing networks of overlapping communities with internal structure](#) 2016
J.-G. Young, L. Hébert-Dufresne, A. Allard, and L. J. Dubé
Phys. Rev. E 94, 022317
7. [Constrained growth of complex scale-independent systems](#) [¶] 2016
L. Hébert-Dufresne, A. Allard, J.-G. Young, and L. J. Dubé
Phys. Rev. E 93, 032304
6. [Complex networks as an emerging property of hierarchical preferential attachment](#) 2015
L. Hébert-Dufresne, E. Laurence, A. Allard, J.-G. Young, and L. J. Dubé
Phys. Rev. E 92, 062809
5. [General and exact approach to percolation on random graphs](#) 2015
A. Allard, L. Hébert-Dufresne, J.-G. Young, and L. J. Dubé
Phys. Rev. E 92, 062807
4. [A shadowing problem in the detection of overlapping communities](#) 2015
J.-G. Young, A. Allard, L. Hébert-Dufresne, and L. J. Dubé
PLOS ONE 10, e0140133
3. [Coexistence of phases and the observability of random graphs](#) [¶] 2014
A. Allard, L. Hébert-Dufresne, J.-G. Young, and L. J. Dubé
Phys. Rev. E 89, 022801
2. [Percolation on random networks with arbitrary \$k\$ -core structure](#) 2013
L. Hébert-Dufresne, A. Allard, J.-G. Young, and L. J. Dubé
Phys. Rev. E 88, 062820
1. [Global efficiency of local immunization on complex networks](#) 2013
L. Hébert-Dufresne, A. Allard, J.-G. Young, and L. J. Dubé
Sci. Rep. 3, 2171

Peer-reviewed conference proceeding

5. [Cutting through the noise to infer autonomous system topology](#) 2022
K. G. Leyba, J. J. Daymude, J.-G. Young, M. E. J. Newman, J. Rexford, and S. Forrest
INFOCOM 2022, Proceedings of the 2022 IEEE International Conference on Computer Communications, pp. 1609–1618.
4. [The OCEAN mailing list data set: Network analysis spanning mailing lists and code repositories](#) 2022
M. Warrick, S. F. Rosenblatt, J.-G. Young, L. Hébert-Dufresne, and J. P. Bagrow
MSR 2022, Proceedings of the 19th International Conference on Mining Software Repositories
3. [Which contributions count? Analysis of attribution in open source](#) 2021
J.-G. Young, A. Casari, K. McLaughlin, M. Z. Trujillo, L. Hébert-Dufresne, and J. P. Bagrow
MSR 2021, Proceedings of the 18th International Conference on Mining Software Repositories
2. [Countering hate on social media: Large scale classification of hate and counter speech](#) 2020
J. Garland, K. Ghazi-Zahedi, J.-G. Young, L. Hébert-Dufresne, and M. Galesic
ACL 2020, Proceedings of the Fourth Workshop on Online Abuse and Harms, pp. 102–112.
1. [Connected graphs with a given degree sequence: Efficient sampling, correlations, community detection and robustness](#) 2020
J. Ring IV, J.-G. Young, and L. Hébert-Dufresne.
NetSci-X 2020, Proceedings of NetSci-X 2020: Sixth International Winter School and Conference on Network Science, pp. 33–47.

[¶]Editors' suggestion

Other edited works

2. [Book review: Advances in Network Clustering and Blockmodeling](#) 2022
J.-G. Young
 J. Soc. Struct. 23, 47
1. [Open source ecosystems need equitable credit across contributions](#) 2021
 A. Casari, K. McLaughlin, M. Z. Trujillo, **J.-G. Young**, J. P. Bagrow, and L. Hébert-Dufresne
 Nat. Comput. Sci. 1, 2

Preprints (6)

- [The network epidemiology of an Ebola epidemic](#)
 L. Hébert-Dufresne, **J.-G. Young**, J. Bedson, L. Skrip, D. Pedi, M. F. Jalloh, B. Raulier,
 O. Lapointe-Gagné, A. Jambai, A. Allard, and B. Althouse
 arXiv:2111.08686
- [The promise of trans-species coexpression analysis in studying the coevolution and ecology of host-parasite interactions.](#)
 A. Hund, P. Tiffin, **J.-G. Young**, and D. Bolnick
 arXiv:2206.12711
 In revision, *Evolution*
- [Sensitivity analysis of epidemic forecasting and spreading on networks with probability generating functions](#)
 M. Boudreau, W. H. W. Thompson, C. Danforth, **J.-G. Young**, and L. Hébert-Dufresne
 arXiv:2506.24103
 Submitted, *J. R. Soc. Interface*
- [Five misunderstandings in animal social network analysis](#)
 D. Redhead, B. Kawam, **J.-G. Young**, D. Franks, C. S Philson, M. van Duijn, J. Hart, M. B. McElreath, R. McElreath,
 E. A. Power, C. Ross, S. Sosa, C. Steglich, M. Weiss, and L. J. N. Brent ecoevorxiv:9817
 Submitted, *Nat. Methods*
- [Inferring signed social networks from contact patterns](#)
 D. Ferenczi, **J.-G. Young**, and L. Peel
 arXiv:2601.10565
 Submitted, *J. Phys. Complex.*
- [Message passing for epidemiological interventions on networks with loops](#)
 E. Weis, L. Hébert-Dufresne, and **J.-G. Young**
 arXiv:2509.21596
 Submitted, *Phys. Rev. E*

TEACHING AND MENTORING**Instructor**

- STAT-6300: *Bayesian Statistics* F2021, F2022, F2023, F2024
- STAT-6990: *Statistical Network Analysis* S2022, S023
- CS-3993: *Independent Study: Machine Learning with graphs* F2023
- STAT-2510: *Applied Probability* F2024
- CSYS-6993: *Independent Study: Information, Physics, and Computation* F2024

Schools and guest lectures

- [CSYS/CS 302: Modeling Complex Systems](#), University of Vermont, Burlington VT, 2020, 2021
- [CNWW: Complex Networks Winter Workshop](#), Québec, Canada 2020, 2023
- [CRM Summer School: Spectral Theory and Applications](#), Québec, Canada 2016

Supervision

- Postdoctoral fellows:
 - ◊ Leah Keating, University of Vermont 2025–
 - ◊ Nicholas W. Landry, University of Vermont 2022–2024

- Ph.D. students:
 - ◊ William H. Thompson, University of Vermont 2024–
 - ◊ Simon Lizotte, Université Laval (co-direction with Antoine Allard) 2022–
 - ◊ Nicholas J. Robert, University of Vermont 2021–
 - ◊ B. K. M. Case, University of Vermont 2021–2023
- Master’s students:
 - ◊ Aviral Chawla, University of Vermont 2022–2024
 - ◊ Erik Weis, University of Vermont 2021–2023
 - ◊ Simon Lizotte, Université Laval (co-direction with Antoine Allard) 2020–2022
- Undergraduate students:
 - ◊ James Lemahieu (Honors Thesis), University of Vermont AY 25/26
 - ◊ Erik Arnold (Honors Thesis), University of Vermont AY 25/26
 - ◊ Erin Silver (Research Intern), University of Vermont Summer 2024
 - ◊ Nathan Blanchard (Honors Thesis), University of Vermont AY 24/25
 - ◊ Trevor Blanchard (Honors Thesis), University of Vermont AY 22/23

INVITED TALKS AND SELECTED CONFERENCE CONTRIBUTIONS

- “*Designing interventions with message passing on clustered graphs*” 2025
[Montréal Network Science Workshop 2025](#), Montréal, QC, Canada (invited keynote)
- “*Contagion, models and control.*” 2025
 Columbia University, New York, NY (invited lecture)
- “*Message passing for intervention design in networks.*” 2024
[QMDN24](#), Los Alamos, NM (invited talk)
- “*Bayesian framework for inference on heterogenous waste-water networks.*” 2024
[NetSci 2024](#), Québec, Canada (contributed talk)
- “*Complex or simple? Determining a contagion’s type from observational data.*” 2024
[WDPCN24](#), São Paulo, Brazil (invited talk)
- “*What can we learn from low-dimensional representations of networks?*” 2024
 - ▷ [NetSI](#), Boston MA, USA (invited seminar)
 - ▷ [Interaction Data Lab](#), Paris, France (invited seminar)
- “*Modeling the Spread of Clostridioides Difficile in Hospitals*” 2023
[SIAM DS23](#), Portland, OR, USA (talk)
- “*Quantifying Contagion Complexity*” 2023
[Dynamics of Interacting Contagions](#) – Santa Fe Institute, NM, USA (talk)
- “*Statistical Modeling and Inference for Higher-Order Network Science*” 2023
[KAIS-Vermont Workshop](#), Seoul, Korea (invited talk)
- “*Uncertain Network Science*” 2021–2023
 - ▷ [Channing Network Science Seminar](#), Boston MA, USA (invited seminar)
 - ▷ [NERCCS 2022 conference](#), Buffalo, NY, USA (invited plenary)
 - ▷ University of Vermont — Mechanical Engineering Seminars, Burlington VT, USA (invited seminar)
 - ▷ [Central European University–Department of Network and Data Science](#), online (invited seminar)
 - ▷ [CNRS, Centre d’Écologie Fonctionnelle et Évolutive](#), Montpellier, France (invited talk)
 - ▷ [University of Maastricht – Department of Data Analytics and Digitalisation](#), Maastricht, Netherlands (invited seminar)
- “*Which contributions count? Analysis of attribution in open source*” 2021–2022
 - ▷ [MSR2021](#), online (talk)
 - ▷ [BTV Data Science Meet-up](#), Burlington, VT, USA (talk)
- “*Inference with growing networks*” 2021
[CNWW2020](#), online (invited talk)

- *“Bayesian approaches to network epidemiology”* 2020
HONS 2020, online (invited talk)
- *“Paper Unwind: Network archaeology”* 2020
School of the NERCCS 2020 conference, Buffalo, NY, USA (invited talk)
- *“Efficient and fully bayesian inference of complex networks from noisy data”* 2019–2020
 - ▷ Indiana University — CNETS, Bloomington, IN, USA (invited seminar)
 - ▷ Université Laval — CIMMUL, Québec, QC, Canada (invited seminar)
 - ▷ Netsci-X 2020, Tokyo, Japan (talk)
 - ▷ NERCCS 2020, Buffalo, NY, USA (talk, best presentation award)
 - ▷ University of Michigan — Jacobs Lab (UMSI), Ann Arbor MI, USA (invited seminar)
 - ▷ Indiana University — Betzel Lab, Bloomington, IN, USA (invited seminar)
 - ▷ Netsci 2020, online (talk)
- *“Compression of treelike complex networks using layered configuration models”* 2019
Netsci 2019, Burlington, VT, USA (talk)
- *“Bayesian inference of effective contagion models from population level data”* 2019
SINM 2019, Burlington, VT, USA (talk)
- *“Universality of the stochastic block model”* 2019
SYNS Warm-up Event 2019, Burlington, VT, USA (invited talk)
- *“The statistical physics of inference for Complex Networks”* 2018
Department of Physics Colloquium Oakland University, Rochester, MI, USA (invited seminar)
- *“Network archaeology: phase transition in the recoverability of network history”* 2018
 - ▷ Univeristy of Colorado Boulder — StatOptML seminar, Boulder, CO, USA (invited seminar)
 - ▷ Univeristy of Vermont — Vermont Complex Systems Institute, Burlington, VT, USA (invited seminar)
 - ▷ Netsci 2018, Paris, France (talk)
 - ▷ Sentinel North 2018 Annual Meeting, Québec, Canada (plenary)
 - ▷ Univeristy of Bath — Centre for Networks and Collective Behaviour, Bath, UK (invited seminar)
 - ▷ Connected Past 2018, Oxford, UK (talk)
- *“Construction of and efficient sampling from the simplicial configuration model”* 2017
 - ▷ HONS 2017, Indianapolis, IN, USA (invited talk)
 - ▷ Indiana University — School of Informatics, Bloomington, IN, USA (invited seminar)
 - ▷ University of Michigan — Center for the Study of Complex Systems, Ann Arbor, MI, USA (invited talk)
- *“Statistical mechanics of mesoscopic structure extraction”* 2017
Netsci 2017, Indianapolis, IN, USA (talk)
- *“Finite size analysis of the detectability limit of the stochastic block model”* 2016
 - ▷ Netsci 2016, Seoul, Korea (lightning talk)
 - ▷ SINM 2016, Seoul, Korea (talk)
 - ▷ ISI Foundation, Torino, Italy (invited seminar)
- *“Structural preferential attachment: scale-free benchmark for overlapping community detection algorithms”* 2015
Netsci 2015, Zaragoza, Spain (poster)
- *“Structural preferential attachment of community structure and its relation to Dunbar’s number”* 2014
Netsci 2014, Berkeley, CA, USA (talk)
- *“Complex networks are an emerging property of hierarchical preferential attachment”^{||}* 2014
NetSci 2014 Science, Berkeley, CA, USA (poster)
- *“Local and global solutions to community detection: when resolution matters”* 2013
NetSci 2013, Copenhagen, Denmark (poster)

LEADERSHIP AND SERVICE

Organizer

- Organizer, *Workshop on Complex Networks in Banking and Finance*, Field Institute, Toronto 2026
- Organizer, *CNWW*, Complex Networks Winter Workshop, Québec, Canada 2021, 2023, 2025
- Program Chair, *NetSci 2024* (School and Conference on Network Science) 2024

^{||} Outstanding poster award

- *Chair*, [CCSS23](#) (Contagion on Complex Social Systems) 2023
- *Organizer*, [SINM](#) (Statistical Inference for Network Models) 2021, 2022, 2023
- *Satellite location organizer* (UVM), [NERCCS 2022](#) 2022
- *Organizer*, [SIAM DS 21 Mini-Symposium on Dynamics in Higher-Order Networks](#), online 2021
- *Co-chair*, First [OpenNetSci Hackathon](#), Burlington VT, USA 2019
- *Organizer*, [NetSci 2019](#), Burlington VT, USA 2019

Service

- *Contributor*, [Several open-source projects](#) ongoing
- *Member*, Faculty Search Committees, Statistics, UVM 2022, 2023, 2024
- *Member*, Program Committee, Complex Systems, UVM 2024–
- *Seminar chair*, [STAT@UVM](#) 2022–
- *Seminar chair*, [Vermont Complex Systems Institute](#) 2021–2023

Reviewer

- *Journals* (35): [Science Advances](#), [Nature Communications](#), [SIAM Review](#), [Physical Review X](#), [Physical Review Letters](#), [Psychological Methods](#), [PLOS Computational Biology](#), [JMIR Public Health Surveillance](#), [The Annals of Applied Statistics](#), [Physical Review E](#), [Physical Review Research](#), [EPJ Data Science](#), [Scientific Data](#), [Cambridge Elements](#), [EPL](#), [Journal of Open Source Software](#), [Journal of Physics: Complexity](#), [Journal of Physics A](#), [Journal of Applied and Computational Topology](#), [npj Complexity](#), [Scientific Reports](#), [PLOS Complex Systems](#), [PLOS ONE](#), [Palgrave Communications](#), [Journal of Complex Networks](#), [Physics Letter A](#), [Chaos Solitons & Fractals](#), [Entropy](#), [Network Science](#), [Animal Behaviour](#), [Applied Network Science](#), [Statistics and Computing](#), [Knowledge and Information Systems](#), [Journal of Computational Science](#), [Chaos](#).
- *Grants*: Panelist, NSF, IIS Division (2019).

Program committee

- [Northeast Regional Conference on Complex Systems \(NERCCS\)](#) 2020, 2021, 2022, 2024, 2025
- [International School and Conference on Network Science \(NetSci\)](#) 2019, 2020, 2023, 2024(X), 2025
- [International Conference on Complex Networks and their Applications](#) 2023
- [SIAM Workshop on Network Science \(SIAM NS\)](#) 2018, 2020

PhD thesis committees

- [Tung-Lin Liu](#), Food Systems. Advisor: Christopher Koliba ongoing
- [Lucy Greenberg](#), Statistics. Advisor: Jeffrey S. Buzas ongoing
- [Larry D. Long](#), Complex Systems and Data Science. Advisor: Britt Williams 2025
- [Nicolò Ruggeri](#) (ETH), Machine Learning and Network Science. Advisor: Caterina de Bacco 2024
- [Mariah Bourdreau](#), Mathematics. Advisor: Laurent Hébert-Dufresne 2024
- [Samuel Rosenblatt](#), Computer Science. Advisor: Laurent Hébert-Dufresne 2024
- [Damin Zhu](#), Statistics. Advisor: Jeffrey S. Buzas 2023
- [Michael Arnolds](#), Complex Systems. Advisor: Peter Dodds 2023

SELECTED SOFTWARE

(Complete list available online)

- [Bayesian inference of networks from noisy data](#) (stan)
- [Bayesian inference of effective contagion models from population level data](#) (stan)
- [Reconstruction of plant–pollinator networks from observational data](#) (stan + python)
- [Sequential MC sampler for Network Archaeology](#) (python + C++)
- [MCMC sampler for the Simplicial Configuration Model](#) (C++)
- [MCMC sampler for the Stochastic Block Model](#) (C++)
- [Structural Preferential Attachment community detection benchmark](#) (C++)

VARIA

Selected media coverage

- *"Au temps de la Révolution française, des rumeurs propagées comme des virus."* Les années lumière (French) 2025
- *"Physiology-inspired networks could improve political decision-making."* Phys.org 2025
- *"Are ideas contagious?."* Phys.org 2024
- *"A selection of 2020's highlighted research."* Nature 2021
- *"To find the right network model, compare all possible histories."* Phys.org 2021
- *"Fighting Hate Speech with AI & Social Science,"* Complexity Podcast 2020
- *"How you talk about coronavirus actually impacts its spread,"* cnet 2020
- *"Neue Studie zeigt Wirksamkeit von Gegenrede im Netz,"* netzpolitik.org 2020
- *"When coronavirus is not alone,"* Phys.org 2020
- *"The shape of randomness."* Physics Central 2017
- *"What algae can tell us about political strategy."* Phys.org 2017
- *"L'univers complexe de Jean-Gabriel Young."* Le Soleil (French) 2017