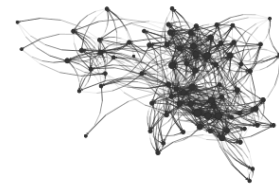


George G. Vega Yon, Ph.D.



Research Associate Professor, Division of Epidemiology, University of Utah

g.vegayon@gmail.com · ggvy.cl · github.com/gvegayon · orcid.org/0000-0002-3171-0844

MAJOR AREAS OF RESEARCH INTEREST

Social Networks and Complex Systems · Network Science · Statistical Computing · Scientific Software Development · Mechanistic Machine Learning · Statistical Methods Development

EDUCATION

Ph.D. in Biostatistics (concentration in Statistical Computing) 2020

University of Southern California, USA

Dissertation: *Essays on Bioinformatics and Social Network Analysis: Statistical and Computational Methods for Complex Systems.*

M.Sc. in Social Sciences (concentration in Economics) 2016

California Institute of Technology, USA

Master in Economics and Public Policy 2011

Universidad Adolfo Ibáñez, Chile

B.S. in Business Administration (minor in Political Science) 2011

Universidad Adolfo Ibáñez, Chile

ACADEMIC AND PROFESSIONAL EXPERIENCE

Research Associate Professor July 2026 – Present

Division of Epidemiology, University of Utah

Adjunct Assistant Professor July 2026 – Present

Kahlert School of Computing, University of Utah

Adjunct Assistant Professor Jan 2023 – Present

Division of Population Health Sciences, University of Utah

Research Assistant Professor Nov 2021 – June 2026

Division of Epidemiology, University of Utah

Data Scientist (contractor) May 2024 – Dec 2025

Center for Forecasting and Outbreaks Analytics, CDC

Lead Data Scientist (Associate) Nov 2023 – May 2024

Booz Allen Hamilton

Research Programmer Feb 2018 – Nov 2021

Department of Preventive Medicine, University of Southern California

Programmer Analyst

Oct 2015 – Feb 2018

Department of Preventive Medicine, University of Southern California

Graduate Student Researcher

Aug 2011 – Oct 2015

Division of Social Sciences, California Institute of Technology

Analyst

Aug 2011 – Aug 2014

Research Division, Chilean Pension Supervisor

Founding Partner

Jan 2012 – Jan 2014

Nodos Chile Social Network Analysis Ltda.

Adjunct Professor of Statistical Computing

Jan 2011 – Jun 2012

School of Government, Universidad Adolfo Ibáñez

AWARDS

Top paper award, International Communication Association	2022
Travel Grant, Society of Young Network Scientists	2019
Fellowship, California Institute of Technology	2014
Honorable Mention (Posters Session), Chilean Economics Society	2012
Scholarship, Universidad Adolfo Ibáñez	2006

PEER REVIEWED PUBLICATIONS

-
1. Milando, C. W., **Vega Yon, G. G.**, Johnson, K., Urbinati, A., St-Onge, G., Klein, B., Cori, A., & White, L. F. (2026). A Vision for Estimation of the Instantaneous Reproductive Number. *Epidemics*, 54, 100885. [doi:10.1016/j.epidem.2026.100885](https://doi.org/10.1016/j.epidem.2026.100885)
 2. Visnovsky, L. D., Leecaster, M., **Vega Yon, G. G.**, Loc-Carrillo, C. M., Dorsan, E., Huber, T., Jamu, S. M., Stratford, K., Samore, M. H., & Drews, F. A. (2026). P-1104. Multidrug-Resistant Organism (MDRO)-Contaminated Mobile Equipment Networks in Skilled Nursing Facilities. *Open Forum Infectious Diseases*, 13(Supplement_1). [doi:10.1093/ofid/ofaf695.1299](https://doi.org/10.1093/ofid/ofaf695.1299)
 3. Piombo, S., **Vega Yon, G. G.**, & Valente, T. W. (2025). The impact of social norms on diffusion dynamics: A simulation of e-cigarette use behavior. *Health Education & Behavior*, 52(4), 428–438. [doi:10.1177/10901981251327189](https://doi.org/10.1177/10901981251327189)
 4. Mohammadi, M., Najafzadehkhoei, S., **Vega Yon, G. G.**, & Wang, Y. (2025). A Novel Approach for Classifying Monoamine Neurotransmitters by Applying Machine Learning on UV Plasmonic-Engineered Auto Fluorescence Time Decay Series (AFTDS). *Nanoscale Advances*, 7(24), 8013–8022. [doi:10.1039/D5NA00416K](https://doi.org/10.1039/D5NA00416K)
 5. Tanaka, K., & **Vega Yon, G. G.** (2024). Imaginary Network Motifs: Structural Patterns of False Positives and Negatives in Social Networks. *Social Networks*, 78, 65–80. [doi:10.1016/j.socnet.2023.11.005](https://doi.org/10.1016/j.socnet.2023.11.005)
 6. Sargent, M., Matthews, L. J., **Vega Yon, G. G.**, Storholm, E. D., Ober, A. J., & Green, H. D. (2024). Assessing the Dynamics of PrEP Adoption in a National-Scale Physician Network. *Social Networks*, 78, 226–237. [doi:10.1016/j.socnet.2024.02.001](https://doi.org/10.1016/j.socnet.2024.02.001)
 7. Duong, K. N. C., Nguyen, D. T., Kategeaw, W., Liang, X., Khaing, W., Visnovsky, L. D., Veettil, S. K., McFarland, M. M., Nelson, R. E., Jones, B. E., Pavia, A. T., Coates, E., Khader, K., Love, J., **Vega Yon, G. G.**, Zhang, Y., Willson, T., Dorsan, E., Toth, D. J. A., Jones, M. M., Samore, M. H., & Chaiyakunapruk, N. (2024). Incorporating Social Determinants of Health into Transmission Modeling of COVID-19 Vaccine in the US: A Scoping Review. *The Lancet Regional Health - Americas*, 35, 100806. [doi:10.1016/j.lana.2024.100806](https://doi.org/10.1016/j.lana.2024.100806)

8. **Vega Yon, G. G.** (2023). Power and Multicollinearity in Small Networks: A Discussion of “Tale of Two Datasets: Representativeness and Generalisability of Inference for Samples of Networks” by Krivitsky, Coletti, and Hens. *Journal of the American Statistical Association*, 118(544), 2228–2231. doi:10.1080/01621459.2023.2252041
9. Meyer, D., & **Vega Yon, G. G.** (2023). epiworldR: Fast Agent-Based Epi Models. *Journal of Open Source Software*, 8(90), 5781. doi:10.21105/joss.05781
10. Panahi, S., Kennedy, E., Roghani, A., **Vega Yon, G. G.**, VanCott, A., Gugger, J. J., Raquel Lopez, M., & Jo Pugh, M. (2023). Veteran Perspectives of Epilepsy Care: Impact of Veteran Satisfaction, Knowledge, and Proactivity. *Epilepsy & Behavior*, 144, 109218. doi:10.1016/j.yebeh.2023.109218
11. Ouellet, M., Hashimi, S., & **Vega Yon, G. G.** (2022). Officer Networks and Firearm Behaviors: Assessing the Social Transmission of Weapon-Use. *Journal of Quantitative Criminology*, 39(3), 679–703. doi:10.1007/s10940-022-09546-9
12. Hâncean, M., Perc, M., **Vega Yon, G. G.**, Gheorghită, A., & Mihăilă, B. (2022). The formation of political discussion networks. *Royal Society Open Science*, 9(1), 211609. doi:10.1098/rsos.211609
13. **Vega Yon, G. G.** (2021). Building, Importing, and Exporting GEXF Graph Files with rgexf. *Journal of Open Source Software*, 6(64), 3456. doi:10.21105/joss.03456
14. **Vega Yon, G. G.**, Thomas, D. C., Morrison, J., Mi, H., Thomas, P. D., & Marjoram, P. (2021). Bayesian parameter estimation for automatic annotation of gene functions using observational data and phylogenetic trees. *PLOS Computational Biology*, 17(2), 1–35. doi:10.1371/journal.pcbi.1007948
15. **Vega Yon, G. G.**, Slaughter, A., & de la Haye, K. (2021). Exponential random graph models for little networks. *Social Networks*, 64, 225 – 238. doi:10.1016/j.socnet.2020.07.005
16. Valente, T. W., & **Vega Yon, G. G.** (2020). Diffusion/Contagion Processes on Social Networks. *Health Education & Behavior*, 47(2), 235–248. doi:10.1177/1090198120901497
17. **Vega Yon, G. G.**, & Quistorff, B. (2019). parallel: A command for parallel computing. *The Stata Journal: Promoting communications on statistics and Stata*, 19(3), 667–684. doi:10.1177/1536867X19874242
18. **Vega Yon, G. G.**, & Marjoram, P. (2019). fmcnc: A friendly MCMC framework. *Journal of Open Source Software*, 4(39), 1427. doi:10.21105/joss.01427
19. **Vega Yon, G. G.**, & Marjoram, P. (2019). slurmR: A lightweight wrapper for HPC with Slurm. *Journal of Open Source Software*, 4(42), 1493. doi:10.21105/joss.01493
20. Bell, B. M., Spruijt-Metz, D., **Vega Yon, G. G.**, Mondol, A. S., Alam, R., Ma, M., Emi, I., Lach, J., Stankovic, J. A., & De La Haye, K. (2019). Sensing eating mimicry among family members. *Translational Behavioral Medicine*, 9(3), 422–430. doi:10.1093/tbm/ibz051
21. Valente, T. W., Wipfli, H., & **Vega Yon, G. G.** (2019). Network influences on policy implementation: Evidence from a global health treaty. *Social Science and Medicine*, 222, 188 – 197. doi:10.1016/j.socscimed.2019.01.008
22. de la Haye, K., Shin, H., **Vega Yon, G. G.**, & Valente, T. W. (2019). Smoking Diffusion through Networks of Diverse, Urban American Adolescents over the High School Period. *Journal of Health and Social Behavior*, 60(3), 362–376. doi:10.1177/0022146519870521
23. Fábrega Lacoa, J., & **Vega Yon, G. G.** (2013). El impacto del rating televisivo sobre la actividad en Twitter: evidencia para Chile sobre la base del evento TELETÓN 2012. *Cuadernos.info*, 33, 43–52. doi:10.7764/cdi.33.533

WORK IN PROGRESS AND TECHNICAL REPORTS

1. Najafzadehkhoei, S., **Vega Yon, G. G.**, Modenesi, B., & Meyer, D. S. (2025). Generalized Machine Learning for Fast Calibration of Agent-Based Epidemic Models. doi:10.48550/arXiv.2509.07013
2. Marye, A., Toth, D. J. A., **Vega Yon, G. G.**, Wagoner, J., Lofgren, E. T., Samore, M. H., Pavia, A. T., Nolen, L. D., Komatsu, K., Oakeson, K., & Keegan, L. T. (2026). Hidden Burden of a Measles Outbreak Revealed by Genomic and Transmission Models. *medRxiv*. doi:10.64898/2026.07.09.26357695

3. Lessler, J., Smith, C. P., Das, P., Sykes, A. L., Urbinati, A., Geith, K., Powers, K. A., Davis, J. T., Kern-Allely, S. C., **Vega Yon, G. G.**, Lofgren, E. T., Pearson, C. A. B., & Vespignani, A. (2026). Why Epidemic Risk at the 2026 World Cup May Not Be What You Think. *medRxiv*. doi:10.64898/2026.05.28.26354384
4. **Vega Yon, G. G.**, Thornton, D., Redd, A., Pulsipher, A., Toth, D., Dorsan, E., Rennert, L., Johnson, K., White, L. F., Gruninger, R., Nolen, L. D., & Samore, M. H. (2026). Practical Guidelines and Reflections on Building Public Health Software: A Measles Case Study (Preprint). *JMIR Public Health and Surveillance*. doi:10.2196/preprints.94240
5. Johnson, K. E., **Vega Yon, G. G.**, Brand, S. P. C., Bernal Zelaya, C. O., Bayer, D., Volkov, I., Susswein, Z., Magee, A., Gostic, K. M., English, K. M., Ghinai, I., Hamlet, A., Olesen, S. W., Pulliam, J. R. C., Abbott, S., & Morris, D. H. (2026). Bayesian Generative Modeling for Heterogeneous Wastewater Data Applied to COVID-19 Forecasting. *medRxiv*. doi:10.64898/2026.02.23.26346887
6. Love, J., LaPrete, C. R., Sheets, T. R., **Vega Yon, G. G.**, Thomas, A., Samore, M. H., Keegan, L. T., Adler, F. R., Slayton, R. B., Spicknall, I. H., & Toth, D. J. A. (2023). Characterizing Spatiotemporal Variation in Transmission Heterogeneity during the 2022 Mpox Outbreak in the USA. *Epidemiology*. doi:10.1101/2023.05.10.23289580
7. **Vega Yon, G. G.**, Pugh, M. J., & Valente, T. W. (2022). Discrete Exponential-Family Models for Multivariate Binary Outcomes. *arXiv*, (arXiv:2211.00627). doi:10.48550/arXiv.2211.00627
8. **Vega Yon, G. G.**, Thomas, D. C., Morrison, J., Mi, H., Thomas, P. D., & Marjoram, P. (2021). Modeling Gene Functional Evolution using Sufficient Statistics.
9. **Vega Yon, G. G.** (2014). Capital Necesario Unitario (CNU): Cálculo e Introducción Del Módulo de Stata CNU. *Superintendencia de Pensiones*, (57). ideas.repec.org/p/sdp/sdpwps/57.html
10. Quintanilla, X., Poblete, I., **Vega Yon, G. G.**, et al. (2013). Estudio Actuarial de los Fondos del Seguro de Cesantía.
11. Repetto, A., & **Vega Yon, G. G.** (2013). El Impacto de un Alza en la Cotización Previsional: Pensiones, Salarios y Empleo. *Centro de Políticas Laborales, UAI*.

BOOKS

Applied Network Science with R (in development). book.ggv.cl

Applied HPC with R (in development). book-hpc.ggv.cl

AI for the Scientist in a Hurry (in development). book-ai.ggv.cl

SOFTWARE PACKAGES

Badges show total CRAN downloads (1,047,086 across 16 packages), as of August 2026.

1. **Vega Yon, G. G.** *rgexf: Build, Import and Export GEXF Graph Files* (2026). R package version 0.17.0. doi:10.32614/CRAN.package.rgexf ↓ 652,627
2. **Vega Yon, G. G.**, & Valente, T. *netdiffuseR: Analysis of Diffusion and Contagion Processes on Networks* (2026). R package version 1.25.0. doi:10.32614/CRAN.package.netdiffuseR ↓ 57,473
3. **Vega Yon, G. G.** *aphylo: Statistical Inference of Annotated Phylogenetic Trees* (2026). R package version 0.3-6. doi:10.32614/CRAN.package.aphylo ↓ 19,337
4. **Vega Yon, G. G.** *netplot: Beautiful graph drawing* (2026). R package version 0.4-0. doi:10.32614/CRAN.package.netplot ↓ 22,178
5. **Vega Yon, G. G.** *barry: your to-go motif accountant* (2026). R package version 0.2.2. doi:10.32614/CRAN.package.barry ↓ 2,494
6. **Vega Yon, G. G.** *defm: Estimation and simulation of Multi-binary response models* (2026). R package version 0.2.1.0. doi:10.32614/CRAN.package.defm ↓ 2,683

7. Meyer, D., & **Vega Yon, G. G.** *epiworldR: Fast Agent-Based Epi Models* (2026). R package version 0.14.0.0. doi:10.32614/CRAN.package.epiworldR ↓15,325
8. Toth, D., Wagoner, J., Ray, W., & **Vega Yon, G. G.** *multigroup.vaccine: Analyze Outbreak Models of Multi-Group Populations with Vaccination* (2026). R package version 0.1.1. epiforesite.github.io/multigroup-vaccine/ ↓1,258
9. **Vega Yon, G. G.** *measles: Measles Epidemiological Models* (2026). R package version 0.2.0. doi:10.32614/CRAN.package.measles ↓2,104
10. Najafzadehkhoei, S., **Vega Yon, G. G.**, & Tanaka, K. *imaginarycss: Tools for Studying Imaginary Cognitive Social Structure* (2026). R package version 0.1.0. doi:10.32614/CRAN.package.imaginarycss ↓2,295
11. **Vega Yon, G. G.**, & de la Haye, K. *ergmito: Exponential Random Graph Models for Small Networks* (2025). R package version 0.3-2. doi:10.32614/CRAN.package.ergmito ↓28,016
12. Meyer, D., & **Vega Yon, G. G.** *epiworldRShiny: Shiny interface for epiworldR* (2025). R package version 0.2.3. doi:10.32614/CRAN.package.epiworldRShiny ↓14,095
13. Bayer, D., Morris, D. H., **Vega Yon, G. G.**, Martin, T., & Bidari, S. *PyRenew: A Package for Bayesian Renewal Modeling with JAX and NumPyro* (2024). Python package version 0.1.0. github.com/CDCgov/PyRenew
14. Johnson, K., Morris, D., Abbott, S., Zelaya, C. B., **Vega Yon, G. G.**, Bayer, D., Magee, A., & Olesen, S. *wwinference: Jointly infers infection dynamics from wastewater data and epidemiological indicators* (2024). R package version 0.1.1.99, https://cdc.gov.github.io/ww-inference-model/. github.com/cdcgov/ww-inference-model/
15. **Vega Yon, G. G.** *slurmR: A Lightweight Wrapper for 'Slurm'* (2023). R package version 0.5-4. doi:10.32614/CRAN.package.slurmR ↓37,183
16. **Vega Yon, G. G.** *fmcmc: A friendly MCMC framework* (2023). R package version 0.5-2. doi:10.32614/CRAN.package.fmcmc ↓34,859
17. **Vega Yon, G. G.** *epiworld: A Flexible and General Agent Based Model Engine* (2022). C++ library version 0.0-1. github.com/UofUEpiBio/epiworld
18. **Vega Yon, G. G.** *pruner: Implementing the Felsenstein's Tree Pruning algorithm* (2020). C++ library version 0.0-1. github.com/USCbiostats/pruner
19. **Vega Yon, G. G.**, & Quistorff, B. *parallel: Stata Module for Parallel Computing* (2019). Stata Module version 1.20.0. github.com/gvegayon/parallel
20. **Vega Yon, G. G.** *googlePublicData: Working with Google's 'Public Data Explorer' DSPL Metadata Files* (2017). R package version 0.16.1. doi:10.32614/CRAN.package.googlePublicData ↓61,617
21. **Vega Yon, G. G.**, & Muñoz, E. *ABCOptim: Implementation of Artificial Bee Colony (ABC) Optimization* (2017). R package version 0.15.0. doi:10.32614/CRAN.package.ABCOptim ↓93,542
22. **Vega Yon, G. G.** *twitterreport: Out-of-the-box analysis and reporting tools for twitter* (2016). R package version 0.16. doi:10.5281/zenodo.44528

GRANTS

Quantum-Enhanced Epidemiological Modeling for Public Health Decision-Making

2026 – 2027

University of Utah Seed Grant (PIs: Vega Yon, Basu Roy). Role: Co-PI. Total award: \$50,000.

Explores the potential of quantum computing to enhance epidemiological modeling and public health decision-making, by implementing a quantum-enhanced version of an epidemiological ABM.

Statistical Methods for Integrative Genomics in Cancer

07-01-2016 – 08-31-2027

5P01CA196569-08, National Cancer Institute (PIs: Gauderman, Siegmund). Role: Co-Investigator. 0.6 calendar months/year. Total award (incl. indirect): \$12,894,663.

Develops novel statistical methods for integrating multi-omic data to address cancer etiology, prognosis, and treatment. I am Co-I on the project using evolutionary models for annotating genes.

Phenotypes of Epilepsy Etiology and Drug Resistance (PEER)

07-01-2023 – 06-30-2026

HT94252310221, U.S. Army Medical Research and Development Command (PI: Kennedy). Role: Co-Investigator. 1.8 calendar months/year. Total award (incl. indirect): \$846,484.

Investigates the causes and mechanisms of epilepsy using new data science methods, generating risk scores for epilepsy after head injury among military personnel.

TRANSMIT: Training Research Acumen in Students Modeling Infectious Threats

09-30-2022 – 09-29-2025

5U01CK000675-01, National Center for Emerging and Zoonotic Infectious Diseases (PI: Keegan). Role: Co-Investigator. 0.3 calendar months/year. Total award (incl. indirect): \$891,356.

A fellowship program training students in mathematical modeling and computational methods for the study of infectious diseases.

Submitted but not funded

Improving our Predictive Capability of Gene Functions by Leveraging Biological Insights with Advanced Statistical Computing

12-01-2022 – 11-30-2027

1R01HG012878-01, National Human Genome Research Institute (PI: Vega Yon). Role: PI.

Uses discrete exponential-family models to build a mechanistic gene function evolution model incorporating biological processes such as neofunctionalization.

Building a Novel Prediction Framework Leveraging Biological Insights to Boost Machine Learning Algorithms for Annotating Gene Function

12-01-2023 – 11-30-2028

1R01HG012878-01A1, National Human Genome Research Institute (PI: Vega Yon). Role: PI.

Extends the model of function evolution using discrete exponential-family models, embedding it into a mechanistic machine learning framework.

TEACHING

(PHS 7045) Advanced Programming with R and HPC

Fall 2024

The University of Utah, USA

Co-instructor, PHS Ph.D. Program

(PHS 7045) Advanced Programming with R and HPC

Fall 2022

The University of Utah, USA

Co-instructor, PHS Ph.D. Program

(PM 566) Introduction to Health Data Science

Fall 2021

University of Southern California, USA

Instructor, M.Sc. in Public Health Data Science

(PM 566) Introduction to Health Data Science

Fall 2020

University of Southern California, USA

Co-instructor, M.Sc. in Public Health Data Science

Statistical Computing with Stata

2012

Universidad Adolfo Ibáñez, Chile
Instructor, Masters in Economics and Public Policy

Microeconomics

2012

Universidad Adolfo Ibáñez, Chile
Co-instructor, B.A. in Business Administration

Introduction to Economics

2011–2012

Universidad Adolfo Ibáñez, Chile
Co-instructor, B.A. in Business Administration

MENTORING AND ADVISING

Sima Najafzadehkhoei — Mentor, RA

2024 – Present

University of Utah, Population Health Sciences, Ph.D. in Biostatistics. Computational epidemiology, agent-based models and ML.

Anibal Olivera — Mentor, RA

2024 – Present

Universidad del Desarrollo, Chile, Ph.D. in Social Complexity. Network science and R package development.

Olivia Banks — Mentor, RA

2024 – Present

University of Utah, undergraduate double major in Computer Science and Cellular and Molecular Biology. Software development and computational epidemiology.

Eric Anto — Ph.D. Dissertation Committee Member

2023 – Present

University of Utah, Population Health Sciences, Biostatistics Ph.D. program.

Hyrum Thomas Diesen — Mentor, RA

2024 – 2025

University of Utah, School of Biological Sciences, Molecular Cellular Evolutionary Biology Ph.D. program.

Katherine Lawson Michod — Qualifying Exam Chair and Dissertation Committee Member

2022 – 2024

University of Utah, Population Health Sciences, Clinical and Translational Epidemiology Ph.D. program.

Derek Meyer — Supervisor, RA, and M.Sc. Dissertation Committee Member

2022 – 2024

University of Utah, Population Health Sciences. Agent-based models for epidemics.

Jacqueline M. Kent-Marvik — Mentor

2022 – 2024

University of Utah, Nursing School, Ph.D. Health Sciences. Network science and social network analysis.

Porter Bischoff — Mentor, RA

Summer 2023

University of Utah + Utah Valley University, Summer Program for Undergraduate Research (SPUR). Network visualization using R.

Luis Lopez — Mentor

2022

NIH Postbac program. Exponential-family random graph models.

CONFERENCE TALKS AND WORKSHOPS

1. Artificial Intelligence for the Scientist in a Hurry. *Sunbelt Conference*, 2026. (2026) (conference workshop, [slides](#))
2. Understanding Diffusion with netdiffuseR. *Sunbelt Conference*, 2026. (2026) (conference workshop, [slides](#))

3. Expanding the ERGM Framework: Modeling Interrelated Health Outcomes with Jointly-Distributed Binary Data. *Sunbelt Conference, 2025*. (2025) (conference talk, [slides](#))
4. Understanding Diffusion with netdiffuseR. *Sunbelt Conference, 2025*. (2025) (conference workshop, [slides](#))
5. Automatic Calibration of Agent-Based Models using Deep Neural Networks. *DELPHI Symposium 2024*. (2024) (conference poster, [slides](#))
6. How does network structure in Agent-Based Models affect epidemiological parameters? A large. *CSS 2024 Santa Fe*. (2024) (conference poster, [slides](#))
7. epiworld: A fast multi-language library for epi ABMs. *Conference on Complex Systems, 2024*. (2024) (conference talk, [slides](#))
8. How Network Structure Affects Epidemiological Indicators in ABMs - A Large Simulation Study Featuring Artificial and Real-world Networks. *INSNA Sunbelt 2023*. (2023) (conference talk, [slides](#))
9. Simulating Complex Agent-Based Model with epiworldR: A fast and flexible ABM framework. *INSNA Sunbelt 2023*. (2023) (conference workshop, [slides](#))
10. Visualization tools for network science: Building beautiful graphs with netplot. *INSNA Sunbelt 2023*. (2023) (conference poster, [slides](#))
11. The importance of interaction networks in long-term care facilities to reduce the equilibrium prevalence of infectious pathogens. *Sunbelt 2022*. (2022) (conference talk)
12. Imaginary Network Motifs: Structural Patterns of False Positives and Negatives in Social Networks. *72th Annual Conference of the International Communication Association*. (2022) (conference talk)
13. Una Mirada General a los Modelos Cuantitativos de Redes Sociales. *VII Reunión Latinoamericana de Análisis de Redes Sociales*. (2021) (conference talk, [slides](#))
14. Network Influence in Officer Firearm Use. *NETWORKS 2021 - A Joint Sunbelt and NetSci Conference*. (2021) (conference talk)
15. Triads, Dyads, and Gene Functions - When Social Network Analysis Meets Phylogenetics. *NETWORKS 2021 - A Joint Sunbelt and NetSci Conference*. (2021) (conference talk)
16. ERGMito Statistical Models for Small Team Social Networks. *SciTS 2020*. (2020) (conference talk, [slides/video](#))
17. Exact Statistics and Semi-Parametric Tests for Small Network Data. *IC2S2, 2019*. (2019) (conference talk, [slides](#))
18. Exact Statistics and Semi-Parametric Tests for Small Network Data. *Sunbelt 2019*. (2019) (conference talk, [slides](#))
19. Small network statistics for the network science of teams. *NetSciX 2019, SCL*. (2019) (conference talk, [slides](#))
20. Computacion de Alto Rendimiento con R. *satRday Santiago 2018*. (2018) (conference workshop, [slides](#))
21. Big Problems for Small Networks: Small Network Statistics. *NASN 2018, DC*. (2018) (conference talk, [slides](#))
22. Uncomplicated Parallel Computing with Stata. *Stata Conference 2017*. (2017) (conference talk, [slides](#))
23. Understanding Diffusion with netdiffuseR. *NASN 2017*. (2017) (conference workshop, [slides](#))
24. Diffusion of Smoking Initiation Among Diverse, Urban American Adolescents Over The High School Period. *NASN 2017*. (2017) (conference talk, [slides](#))
25. Network Diffusion of Innovations in R: Introducing netdiffuseR. *IC2S2, 2016*. (2016) (conference poster, [slides](#))
26. Network Diffusion of Innovations in R: Introducing netdiffuseR. *useR! 2016*. (2016) (conference talk, [slides/video](#))
27. Understanding Diffusion with netdiffuseR. *Sunbelt Conference, 2016*. (2016) (conference workshop, [slides/video](#))
28. Just tired of endless loops! or parallel: Stata module for parallel computing. *Stata Conference, 2013*. (2013) (conference talk, [slides](#))

INVITED TALKS

1. Artificial Intelligence for the Scientist in a Hurry. *Summer Institute in Computational Social Science (SICSS-UF)*. (2026) (invited talk, [slides](#))

2. Machine Learning Sandwich for Agent-Based Models: Automatic calibration and post-processing adjustment for ABMs. *Methods talks*. (2024) (invited talk, [slides](#))
3. A Brief Introduction to High-Performance Computing: With Applications in R. *Methods talks*. (2024) (invited talk, [slides](#))
4. Exponential Random Graph Models: An Introduction. *Summer Institute in Computational Social Science*. (2024) (invited talk, [slides](#))
5. 'La Muerte del Aprendizaje de Máquina' o 'cómo la teoría puede mejorar a las máquinas'. *Escuela de Verano de Sistemas Complejos*. (2024) (invited talk, [slides](#))
6. What is a Scientist?. *Career Day 2023*. (2023) (invited talk, [slides](#))
7. Power and multicollinearity in small networks: A discussion of "Tale of Two Datasets: Representativeness and Generalisability of Inference for Samples of Networks" by Krivitsky, Coletti & Hens. *Joint Statistical Meetings, 2023*. (2023) (invited talk, [slides](#))
8. Network visualization (in R) with "netplot" and motif counting (in C++) with "barry". *SCI Seminar*. (2023) (invited talk, [slides](#))
9. Prediction of Gene Functions by Leveraging Biological Insights with Mechanistic Machine Learning. *University of Utah Data Science Seminar*. (2023) (invited talk, [slides/video](#))
10. Triadas, lazos y funciones genéticas: cuando las redes sociales y la filogenética se encuentran. *Seminario de Data Science*. (2021) (invited talk, [slides/video](#))
11. Triads, Dyads, and Gene Functions - When Social Network Analysis Meets Phylogenetics. *Computational Cancer Genomics Working Group Evening Lecture*. (2021) (invited talk, [slides/video](#))
12. Predicción de funciones genéticas utilizando evidencia experimental y árboles filogenéticos: Un modelo evolutivo" o "Ciencia de datos en la práctica. *PUC Mathematical and Computational Engineering Seminars*. (2020) (invited talk, [slides](#))
13. A Brief Introduction to Using R for High-Performance Computing. *Orange County R Users Group*. (2019) (invited talk, [slides/video](#))
14. Big Problems for Small Networks: Statistical Analysis of Small Networks and Team Performance. *UCI Social Network Research Group*. (2019) (invited talk, [slides](#))
15. Big Problems for Small Networks: Statistical Analysis of Small Networks and Team Performance. *SONIC Speaker*. (2019) (invited talk, [slides/video](#))
16. Estadística de Redes y Econometría Espacial (con R). *IMFD Summer School*. (2018) (invited talk, [slides/video](#))

OTHER TALKS

1. Introduction to Exponential-Family Random Graph Models. *2nd Chilean Summer School about Social Network Research*. (2026) (workshop, [slides](#))
2. Statistical Inference in Network Science: A short course. *3ra Escuela de Verano en Ciencias de la Complejidad Social*. (2026) (workshop, [slides](#))
3. Introduction to Exponential-Family Random Graph Models. *1st Chilean Summer School about Social Network Research*. (2024) (workshop, [slides](#))
4. Statistical Inference in Network Science: A short course. *Escuela de Verano de Sistemas Complejos*. (2024) (workshop, [slides](#))
5. Mechanistic Machine Learning. *MInD2.0 Visit Harvard*. (2023) (talk, [slides](#))
6. A Crash course on git. *Happy Scientist Seminar*. (2021) (workshop, [slides/video](#))
7. HPC with Slurm, R, and the slurmR R package. *Happy Scientist Seminar*. (2021) (workshop, [slides/video](#))
8. Essays on Bioinformatics and Social Network Analysis: Statistical and Computational Methods for Complex Systems. *Doctoral Defense*. (2020) (talk, [slides](#))

9. Essays on Bioinformatics and Social Network Analysis Statistical and Computational Methods for Complex Systems. *Biostats Seminars*. (2020) (talk, [slides/video](#))
10. slurmR workshop. *Happy Scientist Semminar Series*. (2020) (workshop, [slides](#))
11. Happy Scientist Seminar: Research Pipelines. *Happy Scientist Seminar*. (2019) (talk, [slides](#))
12. What drives social networks? A gentle introduction to exponential random graph models (with a focus on small networks). *East LA R User Group*. (2019) (talk, [slides](#))
13. Overview of Social Network Models. (2018) (talk, [slides](#))
14. A brief introduction to using R for high-performance computing. *East LA R User Group*. (2018) (talk, [slides](#))
15. R Bootcamp for Scientific Computing 2018. *R Bootcamp for Scientific Computing*. (2018) (workshop, [slides](#))
16. Introduction to R (for HPC users). *USC's HPCC workshop*. (2018) (workshop, [slides](#))
17. Intro to R. *USC's HPCC workshop*. (2018) (workshop, [slides](#))
18. Reproducible Research. *Health Behavior Research Students talk*. (2016) (talk, [slides](#))

HONORS AND SERVICES TO THE PROFESSION

Manuscript review (ad hoc). Journal of the American Statistical Association · American Sociological Review · Communications Physics · PLOS ONE · BMC Infectious Diseases · The Official Journal of the Society for Computational Economics · The R Journal · The Stata Journal · Social Networks · Journal of Mathematical Sociology · Computer Methods and Programs in Biomedicine Update · Journal of Open Source Software · Bioinformatics

Abstract review. International Conference on Computational Social Science (2019–2021) · SUNBELT Conference (2016)

Panelist / discussant. “Learning tips for your PhD from other researchers in the community,” Early and Middle Career Researchers (EMCRs) on Social Networks workshops, October 2023 · “JASA A&CS Special Invited Session: A Tale of Two Datasets — Representativeness and Generalisability of Inference for Samples of Networks,” Joint Statistical Meetings (JSM), August 2023 · “Social Network Diffusion of Individual Behavior Change Interventions Virtual Workshop,” National Institute on Aging, Division of Behavioral and Social Research, March 2022

Book review. *Microeconometrics and Matlab: An Introduction*, by Adams, Clarke and Quinn, Oxford University Press, 2015 · *Mastering Gephi Network Visualization*, by Ken Cherven, Packt Publishing, 2015 · *Network Graph Analysis and Visualization with Gephi*, by Ken Cherven, Packt Publishing, 2013

Memberships and organizing. Core member, [University of Utah's Center for Data Science](#) (2023–Present) · Lead, [Network Science and Social Network Analysis at the U \(NetSNAU\)](#) (2022–Present) · Member, Center for Applied Network Analysis (CANA) at USC (2016–Present) · Co-organizer, [USC Networks Meeting](#) (2020, 2021) · Founder, the first [R Users Group in Chile](#) (2013) · Co-organizer, [East LA R User Group](#)

TECHNICAL SKILLS

R · C++ · Python · LaTeX · SQL · XML · regex · Stata+Mata · VBA · Gephi · Pajek · Mathematica · MS Office · Git · Unix · Docker · Visual Studio Code

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