

# DANIEL K. SEWELL

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N338 CPHB  
University of Iowa  
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## EDUCATION

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2010-2015	University of Illinois at Urbana-Champaign PhD, Statistics      Advisor: Professor Yuguo Chen Dissertation Title: Statistical Models and Inference for Dynamic Networks
2008-2010	University of Arkansas MS, Statistics
2002-2006	Harding University, Searcy, AR BA, Education

## RESEARCH INTERESTS

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Social network analysis	Statistical computing	Applied scientific problems
Clustering	Monte Carlo methodology	
Bayesian methodology	Data visualization	

## POSITIONS

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2021-Present	University of Iowa Associate Professor, Department of Biostatistics	Iowa City, IA
2015-2021	University of Iowa Assistant Professor, Department of Biostatistics	Iowa City, IA
2020-Present	University of Iowa Faculty Affiliate at the UI Public Policy Center	Iowa City, IA

## AWARDS

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2023	Inducted into the Delta Omega Honorary Society in Public Health
2023	Dr. Carol S. Gleich Development Award
2023	President & Provost Award for Teaching Excellence College of Public Health Nominee
2022	College of Public Health Faculty Teaching Award, University of Iowa
2022	President & Provost Award for Teaching Excellence College of Public Health Nominee
2019	International Symposium on Network Enabled Health Informatics, Biomedicine and Bioinformatics Best Paper Award
2017	Junior Faculty Research Opportunity Award, College of Public Health, University of Iowa
2015	New Faculty Research Award, College of Public Health, University of Iowa
2015	University of Illinois nomination for CGS/ProQuest Distinguished Dissertation Award (limit 1 nomination per university)
2014	Patrick J. Fett award for the best paper on the scientific study of Congress and the presidency
2014	Finalist for the Norton Prize for Outstanding Doctoral Thesis in Statistics
2014	University of Illinois Graduate College Travel Award
2007	Outstanding Calculus Award, Harding University

## PUBLICATIONS

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- Affi Et al. (2024). The ‘dirty work’ of last responders: Occupational stigma risk and protective factors. *Journal of Occupational and Environmental*, 21(3), 145–151. <https://doi.org/10.1080/15459624.2024.2302481>
- Baquero, B., Novak, N., Sewell, D. K., Kava, C. M., Daniel-Ulloa, J., Pham, H., Askleson, N., Ashida, S., Laroche, H., Maldonado Gonzalez, A., Bucklin, R., Haines, H., Parker, E. A., Diers, L., Hernandez, H., Hellige, K., Dunn, B., Rathje, G., Gates, C., ... Board, T. A. O. C. A. (2024). Effectiveness of implementing evidence-based approaches to promote physical activity in a midwestern micropolitan area using a quasi-experimental hybrid type i study design. *BMC Public Health*, 24(1), 1082. <https://doi.org/10.1186/s12889-024-18523-9>
- Busienei, P. J., Simiyu, S., Sewell, A., Daniel K.and Osinuga, & Baker, K. K. (2024). Development of a protocol for using geo-trackers to identify zoonotic enteric pathogen transmission pathways in a pilot study in kenya. *CABI One Health*, 3(1). <https://doi.org/10.1079/cabionehealth.2024.0011>
- Gutema, F. D., Cumming, O., Mumma, J., Simiyu, S., Attitwa, E., Okoth, B., Denge, J., Sewell, D., & Baker, K. K. (2024). *Enterococcus* contamination of infant foods and implications for exposure to food-borne pathogens in peri-urban neighborhoods of kisumu, kenya. *Epidemiology and Infection*, 152, e23. <https://doi.org/10.1017/S0950268824000062>
- Houser, S. A., Sewell, D. K., Medgyesi, D. N., Brogan, J. M., Creve-Coeur, J. P., & Baker, K. K. (2024). ‘a multi-pathogen behavioral exposure model for young children playing in public spaces in developing communities. *PLOS Neglected Tropical Diseases*, *In press*.
- Li, H., Sewell, D. K., Herman, T., Pemmeraju, S. V., Segre, A. M., Miller, A. C., & Polgreen, P. M. (2024). Comparing multiple infection control measures in a nursing home setting: A simulation study. *Infection Control & Hospital Epidemiology*, 1–8. <https://doi.org/10.1017/ice.2024.43>
- Maldonado Et al. (2024). The association between state characteristics and latinos’ treated hypertension in established and new latino destination states: A multilevel analysis. *Family & Community Health*, 47(2), 151–166. <https://doi.org/10.1097/FCH.0000000000000393>
- Miller, A. C., Arakkal, A. T., Sewell, D. K., Segre, A. M., Adhikari, B., & Polgreen, P. M. (2024). Hospitalizations among family members increase the risk of mrsa infection in a household. *Infection Control & Hospital Epidemiology*, 1–7. <https://doi.org/10.1017/ice.2024.106>
- Pham, H. T. D., & Sewell, D. K. (2024). Automated detection of edge clusters via an overfitted mixture prior. *Network Science*, 12(1), 88–106. <https://doi.org/10.1017/nws.2023.22>
- Sewell, D. (2024). Posterior shrinkage towards linear subspaces. *Bayesian Analysis*, 1(1), 1–24.
- Tu, S.-P., Garcia, B., Zhu, X., Sewell, D., Mishra, V., Matin, K., & Dow, A. (2024). Patient care in complex sociotechnological ecosystems and learning health systems. *Learning Health Systems*, e10427. <https://doi.org/https://doi.org/10.1002/lrh2.10427>
- Affi, R., Calderon, J., Pham, H., Teahen, P., Zarate-Sada, S., DK, S., & Vander Weg, M. (2023). Ignored and distressed: A cross-sectional study of the impact of covid-19 on last responders. *BMC Public Health*, 23, 1637.
- Baker, K. K., Simiyu, S., Busienei, P., Gutema, F. D., Okoth, B., Agira, J., Amondi, C. S., Ziraba, A., Kapanka, A. G., Osinuga, A., Ouma, C., Sewell, D. K., Gaire, S., Tumwebaze, I. K., & Mberu, B. (2023). Protocol for the pathome study: A cohort study on urban societal development and the ecology of enteric disease transmission among infants, domestic animals and the environment. *BMJ open*, 13, e076067.
- Chen, Y., Sewell, D., Zhang, P., & Zhu, X. (2023). Editorial: Advances in network data science. *Journal of Data Science*, 21(3), 443–445. <https://doi.org/10.6339/23-JDS213EDI>
- Correa, A. B., Pham, H., Bucklin, R., Sewell, D., & Afifi, R. (2023). Students supporting students: Evaluating the impact of the covid-19 pandemic on resident assistant mental health. *Journal of American College Health*, 1–11. <https://doi.org/10.1080/07448481.2023.2201867>
- Maldonado, A., Hoffman, R. M., Baquero, B., Sewell, D. K., Laroche, H. H., Afifi, R., & Gilbert, P. A. (2023). Identifying the social determinants of treated hypertension in new and established latino destination states. *Journal of Immigrant and Minority Health*, 25, 50–61.
- Miller, A. C., Arakkal, A. T., Sewell, D. K., Segre, A. M., Tholany, J., Polgreen, P. M., & Group, C. M.-H. (2023). Comparison of different antibiotics and the risk for community-associated clostridioides difficile infection:

- A case–control study. *Open Forum Infectious Diseases*, 10(8), <https://academic.oup.com/ofid/article-pdf/10/8/ofad413/51234077/ofad413.pdf>, ofad413. <https://doi.org/10.1093/ofid/ofad413>
- Mullan, S. M., Evans, N. J., Sewell, D. K., Francis, S. L., Polgreen, L. A., Segre, A. M., & Polgreen, P. M. (2023). Predicting use of a gait-stabilizing device using a wii balance board. *PLOS ONE*, 18(10), 1–12. <https://doi.org/10.1371/journal.pone.0292548>
- Baker, K. K., Mumma, J., Simiyu, S., Sewell, D. K., Tsai, K., Anderson, J., MacDougall, A., Dreibelbis, R., & Cumming, O. (2022). Environmental and behavioral exposure pathways associated with diarrhea and enteric pathogen detection in five month old, peri-urban kenyan infants: A cross-sectional study. *BMJ Open*, 12, e059878.
- Burghardt, E., Sewell, D., & Cavanaugh, J. (2022). Agglomerative and divisive hierarchical bayesian clustering. *Computational Statistics & Data Analysis*, 176, 107566.
- Heeren, T., Ward, C., Sewell, D., & Ashida, S. (2022). Applying network analysis to assess the development and sustainability of multi-sector coalitions. *PLOS ONE*, 17(10), 1–15. <https://doi.org/10.1371/journal.pone.0276114>
- Hoffmann, V., Simiyu, S., Sewell, D. K., Tsai, K., Cumming, O., Mumma, J., & Baker, K. K. (2022). Milk product safety and household food hygiene influence bacterial contamination of infant food in peri-urban kenya. *Frontiers in Public Health*, 9, 772892. <https://doi.org/10.3389/fpubh.2021.772892>
- Justice, S., Sewell, D. K., Li, H., Miller, A. C., & Polgreen, P. M. (2022). Evidence of within-facility patient-patient clostridioides difficile infection spread across diverse settings. *Epidemiology and Infection*, 1–23. <https://doi.org/10.1017/S0950268822001893>
- Miller, A. C., Arakkal, A. T., Sewell, D. K., Segre, A. M., Pemmaraju, S. V., & Polgreen, P. M. (2022). Risk for asymptomatic household transmission of clostridioides difficile infection associated with recently hospitalized family members. *Emerging Infectious Diseases*, 28(35447064), 932–939. <https://doi.org/10.3201/eid2805.212023>
- Sewell, D. K. (2022a). Leveraging network structure to improve pooled testing efficiency. *Journal of the Royal Statistical Society: Series C*, 71(5), 1648–1662.
- Sewell, D. K. (2022b). Network-informed constrained divisive pooled testing assignments. *Frontiers in Big Data*, 5, 893760.
- Devotta, D. A., Fraterrigo, J. M., Walsh, P. B., Lowe, S., Sewell, D. K., Schindler, D. E., & Hu, F. S. (2021). Watershed *alnus* cover alters n:p stoichiometry and intensifies p limitation in subarctic streams. *Bio-geochemistry*, 153, 155–176.
- Hasibul Hasan, D. M., Rohwer, A., Jang, H., Herman, T., Polgreen, P. M., Sewell, D. K., Adhikari, B., & Pemmaraju, S. V. (2021). Modeling and evaluation of clustering patient care into bubbles, In *2021 IEEE 9th international conference on healthcare informatics (ichi)*. <https://doi.org/10.1109/ICHI52183.2021.00023>
- Justice, S., Sewell, D., & Miller, A. (2021). Inferring patient transfer networks between healthcare facilities. *Health Serv Outcomes Res Method*.
- Li, H., & Sewell, D. K. (2021). A comparison of point estimators for the network autocorrelation model based on observed social networks. *Social Networks*, 66, 202–210.
- Sewell, D. K. (2021). Model-based edge clustering. *Journal of Computational and Graphical Statistics*, 30(2), 390–405.
- Zhang, Y., Zhou, J., Gehl, C. R., Long, J. D., Johnson, H. J., Magnotta, V., Sewell, D. K., Shannon, K., & Paulsen, J. S. (2021). Mild cognitive impairment as an early landmark in huntington disease. *Frontiers in Neurology*, 12, 678652.
- Daniel-Ulloa, J., Baquero, B., Kava, C. M., Coronado Garcia, M. L., Novak, N., Sewell, D., Maldonado, A., Haines, H. L., Gates, C., & Parker, E. A. (2020). Demographic, psychosocial and perceived environmental factors associated with depression severity in a midwest micropolitan community. *Health Behavior Research*, 3(2).
- Dore, K. M., Sewell, D., Mattenet, E. M., & Turner, T. R. (2020). Gis and gps techniques in an ethnoprimateological investigation of st. kitts vervet monkey (*chlorocebus aethiops sabaues*) crop-foraging behavior (C. A. Shaffer, F. Dolins, J. R. Hickey, N. P. Nibbelink, & L. Porter, Eds.). In C. A. Shaffer, F. Dolins,

- J. R. Hickey, N. P. Nibbelink, & L. Porter (Eds.), *Gis and gps in primatology: A practical guide to spatial analysis*. Cambridge University Press.
- Jang, H., Polgreen, P. M., Segre, A. M., Sewell, D. K., & Pemmaraju, S. V. (2020). A data-driven approach to identifying asymptomatic *C. diff* cases. *The 3rd annual International Workshop on Epidemiology meets Data Mining and Knowledge Discovery (epiDAMIK) 2020*.
- Kharkar, A., Hasan, D. M. H., Polgreen, P., Segre, A., Sewell, D., & Pemmaraju, S. (2020). Naturally emerging cohorting behavior of healthcare workers and its implications for disease spread. *Infection Control & Hospital Epidemiology*, *41*(S1), s329–s330. <https://doi.org/10.1017/ice.2020.932>
- Miller, A. C., Sewell, D. K., Segre, A. M., Pemmaraju, S. V., & Polgreen, P. M. (2020). Risk for *Clostridioides difficile* infection among hospitalized patients associated with multiple healthcare exposures prior to admission. *The Journal of Infectious Diseases*, *224*(4), 684–694.
- Miller, A., Segre, A., Sewell, D., Pemmaraju, S., & Polgreen, P. (2020). Risk of hospital-onset *C. difficile* infection increases with prior inpatient and outpatient visits. *Infection Control & Hospital Epidemiology*, *41*(S1), s78–s79.
- Miller, A., Segre, A., Pemmaraju, S., Sewell, D., & Polgreen, P. (2020). Association of household exposure to primary *Clostridioides difficile* infection with secondary infection in family members. *JAMA Network Open*, *3*(6).
- Pai, S., Pemmaraju, S., Polgreen, P., Segre, A., & Sewell, D. (2020). Spatiotemporal clustering of in-hospital *clostridioides difficile* infection (CDI). *Infection Control and Hospital Epidemiology*, *41*(4), 418–424.
- Polgreen, L. A., Carter, B. L., Polgreen, P. M., Snyder, P. M., Sewell, D. K., Bayman, E. O., Francis, S. L., Simmering, J. E., Parker, C., & Finkelstein, R. (2020). A pharmacist intervention for monitoring and treating hypertension using bidirectional texting: Pharmtext bp. *Contemporary Clinical Trials*, *98*, 106169.
- Sewell, D. K., & Miller, A. (2020). Simulation-free estimation of an individual-based seir model for evaluating nonpharmaceutical interventions with an application to covid-19 in iowa. *PLOS One*, *15*(11), e0241949.
- Sewell, D. K., Penney, J., Jay, M., Zhang, Y., & Paulsen, J. S. (2020). Predicting an optimal composite outcome variable for huntington’s disease clinical trials. *Journal of Applied Statistics*, *48*(7).
- Dow, A., Sewell, D. K., Lockeman, K., & Micalizzi, E. (2019). Evaluating a center for interprofessional education via network analysis. *Academic Medicine*, *95*(2), 207–212.
- Jang, H., Justice, S., Polgreen, P. M., Segre, A. M., Sewell, D. K., & Pemmaraju, S. V. (2019). Evaluating architectural changes to alter pathogen dynamics in a dialysis unit. *International Conference on Advances in Social Networks Analysis and Mining '19*.
- Kava, C. M., Parker, E. A., Baquero, B., Curry, S. J., Gilbert, P. A., Sauder, M., & Sewell, D. K. (2019). Associations between organizational culture, workplace health climate, and employee smoking at smaller workplaces. *Tobacco Use Insights*, *12*(1179173X1983584).
- Medgyesi, D., Sewell, D. K., Senesac, R., Cumming, O., Mumma, J., & Baker, K. K. (2019). The landscape of enteric pathogen exposure for children during play in public domains of low-income, kisumu, kenya. *PLOS Neglected Tropical Diseases*, *13*(3), e0007292.
- Sewell, D. K. (2019a). Analysis of network interventions with an application to hospital acquired infections. *Statistics in Medicine*, *38*, 5376–5390.
- Sewell, D. K. (2019b). Latent space models for network perception data. *Network Science*, *7*(2), 160–179.
- Sewell, D. K. (2019c). Multilinear tests of association between networks. *Proceedings of the Meeting of the Classification and Data Analysis Group '19*.
- Sewell, D. K., Simmering, J. E., Justice, S., Pemmaraju, S. V., Segre, A. M., & Polgreen, P. M. (2019). Estimating the attributable disease burden and effects of inter-hospital patient sharing on *Clostridium difficile* infections. *Infection Control and Hospital Epidemiology*, *40*(6), 656–661.
- Zhu, X., Tu, S.-P., Sewell, D. K., Yao, N., Mishra, V. K., Dow, A., & Banas, C. (2019). Measuring electronic communication networks in virtual care teams using electronic health records access-log data. *International Journal of Medical Informatics*, *128*, 46–52.
- Anthony, C. A., Peterson, R. A., Sewell, D. K., Polgreen, L. A., Simmering, J. E., Callaghan, J. J., & Polgreen, P. M. (2018). The seasonal variability of surgical site infections in knee and hip arthroplasty. *The Journal of Arthroplasty*, *33*(2), 510–514.e1.

- Ashida, S., Sewell, D. K., Schafer, E. J., Schroer, A., & Friberg, J. (2018). Social network members who engage in activities with older adults: Do they bring more social benefits than other members? *Ageing and Society*, 1–20.
- Baker, K. K., Senesac, R., Sewell, D. K., Sen Gupta, A., Cumming, O., & Mumma, J. (2018). Fecal fingerprints of enteric pathogen contamination in low-income neighborhoods of Kisumu, Kenya: The role of human and domestic animal sources in environmental pathogen contamination patterns. *Environmental Science & Technology*, 52(18), 10263–10274.
- Baquero, B., Kava, C. M., Ashida, S., Daniel-Ulloa, J., Laroche, H. H., Haines, H., Bucklin, R., Maldonado, A., Garcia, M. C., Berto, S., Sewell, D., Novak, N., Janz, K., Gates, C., & Parker, E. A. (2018). Active ottumwa: Adapting evidence-based recommendations to promote physical activity in a micropolitan new destination community. *International Journal of Environmental Research and Public Health*, 15(5).
- Kava, C. M., Parker, E. A., Baquero, B., Curry, S. J., Gilbert, P. A., Sauder, M., & Sewell, D. K. (2018a). Organizational culture and the adoption of anti-smoking initiatives at small to very small workplaces: An organizational level analysis. *Tobacco Prevention & Cessation*, 4.
- Kava, C. M., Parker, E. A., Baquero, B., Curry, S. J., Gilbert, P. A., Sauder, M., & Sewell, D. K. (2018b). A qualitative assessment of the smoking policies and cessation activities at smaller workplaces. *BMC Public Health*, 18(1), 1094.
- Medgyesi, D. N., Brogan, J. M., Sewell, D. K., Creve-Coeur, J. P., Kwong, L. H., & Baker, K. K. (2018). Where children play: Young child exposure to environmental hazards during play in public areas in a transitioning internally displaced persons community in Haiti. *International Journal of Environmental Research and Public Health*, 15(8), 1646.
- Metcalf, K. M., Baquero, B. I., Coronado Garcia, M. L., Francis, S. L., Janz, K. F., Laroche, H. H., & Sewell, D. K. (2018). Calibration of the global physical activity questionnaire to accelerometry measured physical activity and sedentary behavior. *BMC Public Health*, 18(1), 412.
- Sewell, D. K. (2018a). Simultaneous and temporal autoregressive network models. *Network Science*, 6(2), 204–231.
- Sewell, D. K. (2018b). Visualizing data through curvilinear representations of matrices. *Computational Statistics & Data Analysis*, 128, 255–270.
- Anthony, C., Peterson, R., Polgreen, L. A., Sewell, D. K., & Polgreen, P. M. (2017). The seasonal variability in surgical site infections and association with warmer weather: A population-based investigation. *Infection Control & Hospital Epidemiology*, 38(7), 809–816.
- Bernhard, W., Sewell, D. K., & Sulkin, T. (2017). A clustering approach to legislative styles. *Legislative Studies Quarterly*, 42(3), 477–506.
- Dow, A. W., Zhu, X., Sewell, D. K., Banas, C. A., Mishra, V., & Tu, S.-P. (2017). Teamwork on the rocks: Rethinking interprofessional practice as networking [PMID: 28792251]. *Journal of Interprofessional Care*, 31(6), 677–678.
- Peterson, R., Polgreen, L. A., Sewell, D. K., & Polgreen, P. M. (2017). Warmer weather as a risk factor for cellulitis: A population-based investigation. *Clinical Infectious Diseases*, 65(7), 1167–1173.
- Sewell, D. K. (2017a). Heterogeneous susceptibilities in social influence models. *Social Networks*, 52, 135–144.
- Sewell, D. K. (2017b). Network autocorrelation models with egocentric data. *Social Networks*, 49, 113–123.
- Sewell, D. K., & Chen, Y. (2017). Latent space approaches to community detection in dynamic networks. *Bayesian Analysis*, 12(2), 351–377.
- Simmering, J. E., Polgreen, L. A., Hornick, D. B., Sewell, D. K., & Polgreen, P. M. (2017). Weather-dependent risk for legionnaires' disease, United States. *Emerging Infectious Diseases*, 23(11), 1843–1851.
- Sewell, D. K., & Chen, Y. (2016). Latent space models for dynamic networks with weighted edges. *Social Networks*, 44, 105–116.
- Sewell, D. K., Chen, Y., Bernhard, W., & Sulkin, T. (2016). Model-based longitudinal clustering with varying cluster assignments. *Statistica Sinica*, 26(1), 205–233.
- Sewell, D. K., & Chen, Y. (2015a). Analysis of the formation of the structure of social networks by using latent space models for ranked dynamic networks. *Journal of the Royal Statistical Society: Series C*, 64(4), 611–633.

Sewell, D. K., & Chen, Y. (2015b). Latent space models for dynamic networks. *Journal of the American Statistical Association*, 110(512), 1646–1657.

Sewell, D. K., Kim, H., Ha, T., & Ma, P. (2015). A parameter estimation method for fluorescence lifetime data. *BMC Research Notes*, 8(1), 230.

## SOFTWARE

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Author of R packages `dnc`, `STAR`, `curveRep`, `LSMNP`, `LSEC`, `marginalMeans`, `SUBSET`, `LADIE`

GPAQ calibration web application

University of Iowa COVID-19 Nonpharmaceutical Intervention Evaluation Web Application

## TEACHING EXPERIENCE

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–INSTRUCTOR–

		<i>TERMS</i>
		<i>INSTRUCTED</i>
University of Iowa	BIOS 5710: Biostatistical Methods I	3
	BIOS 5720: Biostatistical Methods II	6
	BIOS 6810: Bayesian Methods and Design	4
	BIOS 7600: Statistical Analysis of Network Data	3
University of Illinois	STAT 200: Statistical Analysis	1
University of Arkansas	STAT 2303: Principles of Statistics	1
	MATH 2043: Survey of Calculus	1
	MATH 1203: College Algebra	2

## ADVISING

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PhD Advisor	Elliot Burghardt	Biostatistics
	Haomin Li	Biostatistics
	Hannah Pham	Biostatistics
	Scott Cleven	Biostatistics
	Alan Arakkal	Biostatistics
	Kailey Mulligan	Biostatistics
Committee member	Brandon Butcher	Biostatistics
	Annika Helverson	Biostatistics
	Christine Kava	Community and Behavioral Health
	Samuel Justice	Statistics and Actuarial Science
	Seungwon Kim	Geographical and Sustainability Sciences
	Adriana Maldonado	Community and Behavioral Health
	Kyle Peterson	Interdisciplinary Graduate Program in Informatics
	Michael Seedorff	Biostatistics
	Eldon Sorenson	Biostatistics
Caitlin Ward	Biostatistics	
Master's Preceptorship	Amy Hahn	Biostatistics
	Scott Cleven	Biostatistics
	Sabin Gaire	Biostatistics
	Blaize Kandler	Biostatistics
	Seungwon Kim	Geographical and Sustainability Sciences
	Haomin Li	Biostatistics
	Hannah Pham	Biostatistics
	Eldon Sorenson	Biostatistics

## EDITORIAL BOARDS

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Journal of the American Statistical Association	Associate Editor
Journal of Data Science	Guest editor for "Advances in network data science"

## FINANCIAL SUPPORT

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### –ACTIVE–

(PI) Statistical and Agent-based Modeling of Complex Microbial Systems: A Means for Understanding Enteric Disease Transmission Among Children in Urban Neighborhoods of Kenya (1 R01 TW011795-01)

University of Iowa COVID-19 Flex Funding Award

Connected Cancer Care: EHR Communication Networks in Virtual Cancer Care Teams (1 R21 HS026075-01A1)

A Pharmacist Intervention for Monitoring and Treating Hypertension Using Bidirectional Texting (1 R61 HL144880-01A1)

University of Iowa Prevention Research Center for Rural Health (5 U48 DP005021-05; 6 U48 DP006389-02)

Contact Network Transmission Modeling of Healthcare Associated Infections (5 U01 CK000531-02)

Iowa Summer Institute for Research Education in Biostatistics (1 R25 HL147231-01)

### –COMPLETED–

Grinnell College & U. Iowa Residential College/Schools Prevention and Control of SARS-CoV-2

Market to Mouth Infant Food Contamination Study: A Collaboration between the Safe Start Study and IFPRI (2018X134.UOI)

Care Coordination Networks (UI Public Policy Center Summer Scholars Project)

Statistical Disease Modeling and Clinimetrics to Prepare for Preventive Trials in Huntington Disease (5 R01 NS103475-02)

Preparing for Preventive Clinical Trials in Huntington's Disease (1 R01 NS105509-01)

New Faculty Research Award

Junior Faculty Research Opportunity Award

e-Health (82154300)

## PRESENTATIONS

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### –INVITED TALKS–

- 2024 “Homophily-adjusted social influence estimation,” at *Joint Statistical Meetings*, Portland, OR
- 2024 “Healthcare disparities exhibited in length of stay for inpatient visits,” for the CDC MInD Healthcare Network, Virtual
- 2023 “Divisive Hierarchical Bayesian Clustering on Longitudinal Data: Identifying Parkinson’s Disease Subtypes,” at *Joint Statistical Meetings*, Toronto, CA
- 2023 “Agglomerative and Divisive Hierarchical Bayesian Clustering,” at the Summer Session of the Working Group on Model-Based Clustering, Pittsburgh, PA
- 2023 “Comparing multiple infection control measures in a nursing home setting: A simulation study,” for the CDC MInD Healthcare Network, Virtual
- 2022 “The community-hospital feedback loop,” at the MInD Grantee Meeting 2022, Atlanta, GA
- 2022 “Automated detection of edge clusters,” at *Social Networks and Beyond*, New York, NY
- 2021 “Model-based edge clustering,” at the Summer Session of the Working Group on Model-Based Clustering, Athens, Greece
- 2020 “Model-based edge clustering,” at the University of Iowa, Department of Statistics
- 2020 “Facing the Facts: The Role of Face Coverings in Containing COVID-19” College of Public Health webinar on face coverings
- 2020 “Understanding, Predicting and Planning for Resilience- Epidemiologic Modeling,” Office of the Vice President for Research Webinar on COVID-19
- 2020 “Mining Social Network Data - EDA & Visualization ,” ASA Statistical Learning and Data Science Section webinar series “Introductory Overview Lectures in Data Science”
- 2019 “Model-based edge clustering,” at Shambaugh Conference on International Relations and Network Analysis, University of Iowa
- 2019 “Multilinear tests of association between two networks,” at Classification and Data Analysis Group Meeting, Cassino, Italy
- 2018 “Heterogeneous susceptibilities in network influence models,” at CMStatistics, Pisa, Italy
- 2018 “Estimating the attributable disease burden and effects of inter-hospital patient sharing on *Clostridium difficile* infections in California,” at the International Conference on Emerging Infectious Diseases, Atlanta, GA
- 2017 “Simultaneous and temporal autoregressive network models,” at Iowa State University, Department of Statistics
- 2017 “Statistical analysis of networks in bioinformatics: Getting the right data,” Informatics Showcase, University of Iowa
- 2017 “Measuring electronic communication networks in virtual healthcare teams using electronic health records ccess-log data,” with Zhu X, Tu SP, Hall L, Mishra V, Yao A, Dow A, and Banas C., at *INSNA Sunbelt Conference*, Beijing, China



- 2017 | “The effects of analyzing subsets of hospital patient transfer networks” at the University of Iowa, Department of Geographical and Sustainability Sciences
- 2016 | “Clustering dynamic and evolving data” at the University of Iowa, Department of Biostatistics
- 2016 | “Clustering dynamic and evolving data” at the University of Iowa, Department of Political Science
- 2016 | “Simultaneous and temporal autoregressive network models,” at *INSNA Sunbelt Conference*, Newport Beach, CA
- 2016 | “Social network analysis,” at the Center for Comprehensive Access And Delivery Research And Evaluation
- 2015 | “Latent space models for dynamic networks,” at the University of Iowa, Department of Statistics and Actuarial Science
- 2015 | “Latent space models for dynamic networks,” at the University of Iowa, Department of Computer Science
- 2015 | “Analysis of the formation of the structure of social networks,” at *17<sup>th</sup> Meeting of New Researchers in Statistics and Probability*, Seattle, WA
- 2015 | “Latent space models for dynamic networks,” at Texas A&M
- 2015 | “Latent space models for dynamic networks,” at Duke University
- 2015 | “Latent space models for dynamic networks,” at the University of Michigan
- 2015 | “Latent space models for dynamic networks,” at the University of Missouri
- 2015 | “Latent space models for dynamic networks,” at Notre Dame University
- 2015 | “Latent space models for dynamic networks,” at the University of Alberta
- 2015 | “Latent space models for dynamic networks,” at the University of Colorado, Denver
- 2015 | “Latent space models for dynamic networks,” at Portland State University
- 2015 | “Latent space models for dynamic networks,” at University of Iowa, Department of Biostatistics
- 2015 | “Latent space models for dynamic networks,” at Binghamton University
- 2015 | “Latent space models for dynamic networks,” at Miami University
- 2014 | “Legislative style,” with W. Bernhardt and T. Sulkin, *Annual Meeting of the Midwest Political Science Association*, Chicago, IL
- 2014 | “Latent space models for dynamic networks,” *Midwest Statistics Research Colloquium*, Chicago, IL

–INVITED POSTERS–

- 2020 | “Estimating the Impact of County Boundaries on State-wide Patient-sharing Network Models,” at *Decennial 2020: 6th International Conference on Healthcare Associated Infections*, Atlanta, GA
- 2020 | “Exploring the Potential Limitations of Using Medicare Data to Study the Spread of Infections from Hospital Transfers,” at *Decennial 2020: 6th International Conference on Healthcare Associated Infections*, Atlanta, GA

–CONTRIBUTED TALKS–

- 2016 | "Simultaneous and temporal autoregressive network models," at *Joint Statistical Meetings*, Chicago, IL
- 2015 | "Analysis of the formation of the structure of social networks," at *Joint Statistical Meetings*, Seattle, WA
- 2014 | "Detecting influence in dynamic networks," *Joint Statistical Meetings*, Boston, MA
- 2014 | "Community detection for dynamic networks," *Bohrer Workshop in Statistics*, Department of Statistics, University of Illinois at Urbana-Champaign
- 2013 | "Latent space models for dynamic networks," *Bohrer Workshop in Statistics*, Department of Statistics, University of Illinois at Urbana-Champaign
- 2011 | "A parameter estimation method for single molecule fluorescence lifetime data," *Bohrer Workshop in Statistics*, Department of Statistics, University of Illinois at Urbana-Champaign

–WORKSHOPS–

- 2020 | Webinar on "Introductory Overview Lectures in Social Networks" through the American Statistical Association Web-Based Lectures
- 2019 | Short course "Introduction to statistical analysis of network data" at Sapienza Università di Roma
- 2019 | Short course "Networks in R" at *University of Iowa Data Science Institute* (Summer)
- 2017 | Short course "Networks in R" at *University of Iowa Data Science Institute* (Summer)
- 2017 | Short course "Introduction to R" at *University of Iowa Data Science Institute* (Winter)
- 2016 | Workshop on "Introduction to R," at *Informatics Showcase*, University of Iowa

## REFEREED JOURNALS/FUNDING AGENCIES

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*Applied Network Analysis*

*Annals of Applied Statistics*

*Bayesian Analysis*

*Biometrics*

*BMJ Open*

*Computational Statistics and Data Analysis*

*Communications in Statistics*

*Expert Systems with Applications*

*Extremes*

Great Plains IDeA CTR Pilot Program

*JAMA Network Open*

*Journal of Allergy and Clinical Immunology*

*Journal of the American Statistical Association T&M*

*Journal of the American Statistical Association A&CS*

*Journal of Computational and Graphical Statistics*

*Journal of Econometrics*

*Journal of Educational and Behavioral Statistics*

*Journal of Medical Internet Research AI*

*Journal of Multivariate Analysis*

*Journal of the Royal Statistical Society, Series A*

*Journal of the Royal Statistical Society, Series B*

*Journal of the Royal Statistical Society, Series C*

*Multivariate Behavioral Research*

*Network Science*

National Science Foundation

*PLOS One*

Polish National Science Centre

*Psychometrika*

*Social Networks*

*Statistics and Computing*

*Statistics and Its Interface*

*Statistics in Medicine*

*Statistical Methods & Applications*

## PROFESSIONAL ACTIVITIES

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2024-present	Associate Editor, Scientific Reports
2022-present	Associate Editor, Journal of the American Statistical Association
2021-present	Guest Editor, Journal of Data Science
2018-present	Biostatistics Colloquium Committee (Chair)
2018-present	Chapter representative of the Iowa Chapter of the American Statistical Association
2016-2018, 2020	Faculty mentor for the Iowa Summer Institute in Biostatistics at the University of Iowa
2016-2017	Member of faculty search committee for the Department of Biostatistics at the University of Iowa
2015-2018	Member of the advanced statistical computing course exploratory committee for the Department of Biostatistics at the University of Iowa
2015-present	Member of M.S. Exam Committee for the Department of Biostatistics at the University of Iowa
2015-present	Member of the computing committee for the Department of Biostatistics at the University of Iowa
2015-2018	Member of graduate admissions committee for the Department of Biostatistics at the University of Iowa
2015-present	Member of the awards committee for the College of Public Health at the University of Iowa
2015-2016	Member of student paper award committee of the ASA nonparametric statistics section
2016	College of Public Health representative and member of the Hancher-Finkbine dinner medallion selection committee at the University of Iowa

## PROFESSIONAL ASSOCIATIONS

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International Network for Social Network Analysis

American Statistical Association

Institute of Mathematical Statistics

International Society for Bayesian Analysis