

DANIEL K. SEWELL

ADDRESS: Department of Biostatistics
N338 CPHB
University of Iowa
145 N. Riverside Dr. 52242
PHONE: (319) 384-1585
EMAIL: daniel-sewell@uiowa.edu

EDUCATION

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

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

POSITIONS

2015-Present	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

PUBLICATIONS

Daniel K. Sewell, Journey Penney, Melissa Jay, Ying Zhang, and Jane S. Paulsen. Predicting an optimal composite outcome variable for huntington's disease clinical trials. *Journal of Applied Statistics*, 2020. In press. DOI: 10.1080/02664763.2020.1759034

S. Pai, S.V. Pemmaraju, P.M. Polgreen, A.M. Segre, and D.K. Sewell. Spatiotemporal clustering of in-hospital *clostridioides difficile* infection (CDI). *Infection Control and Hospital Epidemiology*, 41(4):418–424, 2020

Daniel K. Sewell. Model-based edge clustering. *Journal of Computational and Graphical Statistics*, 2020. Invited revision

J. Daniel-Ulloa, B. Baquero, C. M. Kava, M. L. Coronado Garcia, N. Novak, D.K. Sewell, A. Maldonado, H. L. Haines, C. Gates, and E. A. Parker. Demographic, psychosocial and perceived environmental factors associated with depression severity in a midwest micropolitan community. *Health Behavior Research*, 2019. Under Review

Daniel K. Sewell. Multilinear tests of association between networks. In *Proceedings of the Meeting of the Classification and Data Analysis Group*, 2019

- Daniel K. Sewell. Analysis of network interventions with an application to hospital acquired infections. *Statistics in Medicine*, 38:5376–5390, 2019. doi:10.1002/sim.8373
- Hankyu Jang, Samuel Justice, Philip M. Polgreen, Alberto M. Segre, Daniel K. Sewell, and Sriram V. Pemmaraju. Evaluating architectural changes to reduce infection spread in a dialysis unit. *International Conference on Advances in Social Networks Analysis and Mining '19*, 2019
- Xi Zhu, Shin-Ping Tu, Daniel K. Sewell, Nengliang Yao, Vimal K Mishra, Alan Dow, and Colin Banas. Measuring electronic communication networks in virtual care teams using electronic health records access-log data. *International Journal of Medical Informatics*, 128:46–52, 2019
- Alan Dow, Daniel K. Sewell, Kelly Lockeman, and Elizabeth Micalizzi. Evaluating a center for interprofessional education via network analysis. *Academic Medicine*, 95(2):207–212, 2019
- Daniel K. Sewell. Latent space models for network perception data. *Network Science*, 7(2):160–179, 2019
- Daniel K. Sewell, Jacob E. Simmering, Samuel Justice, Sriram V. Pemmaraju, Alberto M. Segre, and Philip M. Polgreen. 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, 2019
- Danielle Medgyesi, Daniel K. Sewell, Reid Senesac, Oliver Cumming, Jane Mumma, and Kelly K. Baker. 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, 2019
- C. M. Kava, E. A. Parker, B. Baquero, S. J. Curry, P. A. Gilbert, M. Sauder, and D. K. Sewell. Associations between organizational culture, workplace health climate, and employee smoking at smaller workplaces. *Tobacco Use Insights*, 12(1179173X1983584), 2019
- Daniel K. Sewell. Visualizing data through curvilinear representations of matrices. *Computational Statistics & Data Analysis*, 128:255–270, 2018
- Daniel K Sewell. Simultaneous and temporal autoregressive network models. *Network Science*, 6(2):204–231, 2018
- Sato Ashida, Daniel K. Sewell, Ellen J. Schafer, Audrey Schroer, and Julia Friberg. Social network members who engage in activities with older adults: do they bring more social benefits than other members? *Ageing and Society*, pages 1–20, 2018
- Kristen M. Metcalf, Barbara I. Baquero, Mayra L. Coronado Garcia, Shelby L. Francis, Kathleen F. Janz, Helena H. Laroche, and Daniel K. Sewell. Calibration of the global physical activity questionnaire to accelerometry measured physical activity and sedentary behavior. *BMC Public Health*, 18(1):412, Mar 2018
- Danielle N Medgyesi, John M. Brogan, Daniel K Sewell, Jean Philippe Creve-Coeur, Laura H Kwong, and Kelly K Baker. 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, 2018
- Kelly K. Baker, Reid Senesac, Daniel K. Sewell, Ananya Sen Gupta, Oliver Cumming, and Jane Mumma. 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, 2018
- Barbara Baquero, Christine M. Kava, Sato Ashida, Jason Daniel-Ulloa, Helena H. Laroche, Heidi Haines, Rebecca Bucklin, Adriana Maldonado, Mayra Coronado Garcia, Sandy Berto, Dan Sewell, Nicole Novak, Kathleen Janz, Claudia Gates, and Edith A. Parker. 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), 2018

- Chris A. Anthony, Ryan A. Peterson, Daniel K. Sewell, Linnea A. Polgreen, Jacob E. Simmering, John J. Callaghan, and Philip M. Polgreen. The seasonal variability of surgical site infections in knee and hip arthroplasty. *The Journal of Arthroplasty*, 33(2):510–514.e1, 2018
- Christine M. Kava, Edith A. Parker, Barbara Baquero, Susan J. Curry, Paul A. Gilbert, Michael Sauder, and Daniel K. Sewell. Organizational culture and the adoption of anti-smoking initiatives at small to very small workplaces: An organizational level analysis. *Tobacco Prevention & Cessation*, 4, 2018
- Christine M. Kava, Edith A. Parker, Barbara Baquero, Susan J. Curry, Paul A. Gilbert, Michael Sauder, and Daniel K. Sewell. A qualitative assessment of the smoking policies and cessation activities at smaller workplaces. *BMC Public Health*, 18(1):1094, Sep 2018
- Daniel K Sewell. Heterogeneous susceptibilities in social influence models. *Social Networks*, 52:135–144, 2017
- Daniel K Sewell. Network autocorrelation models with egocentric data. *Social Networks*, 49:113–123, 2017
- Daniel K Sewell and Yuguo Chen. Latent space approaches to community detection in dynamic networks. *Bayesian Analysis*, 12(2):351–377, 2017
- Alan W. Dow, Xi Zhu, Daniel K. Sewell, Colin A. Banas, Vimal Mishra, and Shin-Ping Tu. Teamwork on the rocks: Rethinking interprofessional practice as networking. *Journal of Interprofessional Care*, 31(6):677–678, 2017. PMID: 28792251
- Jacob E Simmering, Linnea A Polgreen, Douglas B Hornick, Daniel K Sewell, and Philip M Polgreen. Weather-dependent risk for legionnaires’ disease, united states. *Emerging Infectious Diseases*, 23(11):1843–1851, 2017
- Chris Anthony, Ryan Peterson, Linnea A Polgreen, Daniel K Sewell, and Philip M Polgreen. The seasonal variability in surgical site infections and association with warmer weather: a population-based investigation. *Infection Control & Hospital Epidemiology*, 38(7):809–816, 2017
- Ryan Peterson, Linnea A Polgreen, Daniel K. Sewell, and Philip M Polgreen. Warmer weather as a risk factor for cellulitis: a population-based investigation. *Clinical Infectious Diseases*, 65(7):1167–1173, 2017
- William Bernhard, Daniel K. Sewell, and Tracy Sulking. A clustering approach to legislative styles. *Legislative Studies Quarterly*, 42(3):477–506, 2017
- Daniel K Sewell, Yuguo Chen, William Bernhard, and Tracy Sulkin. Model-based longitudinal clustering with varying cluster assignments. *Statistica Sinica*, 26(1):205–233, 2016
- Daniel K Sewell and Yuguo Chen. Latent space models for dynamic networks with weighted edges. *Social Networks*, 44:105–116, 2016
- Daniel K Sewell and Yuguo Chen. Latent space models for dynamic networks. *Journal of the American Statistical Association*, 110(512):1646–1657, 2015
- Daniel K Sewell and Yuguo Chen. 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 (Applied Statistics)*, 64(4):611–633, 2015
- Daniel K Sewell, Hajin Kim, Taekjip Ha, and Ping Ma. A parameter estimation method for fluorescence lifetime data. *BMC Research Notes*, 8(1):230, 2015

AWARDS

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

SOFTWARE

Author of R package `dnc`, `STAR`, `curveRep`, `LSMNP`, `LSEC`,

Author of GPAQ calibration web application

TEACHING EXPERIENCE

–INSTRUCTOR–

		<i>TERMS</i>
		<i>INSTRUCTED</i>
University of Iowa	BIOS 5710: Biostatistical Methods I	2
	BIOS 5720: Biostatistical Methods II	2
	BIOS 6810: Bayesian Methods and Design	2
	BIOS 7600: Statistical Analysis of Network Data	1
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

–LON-CAPA PROGRAMMER–

University of Illinois | Stat 100: Statistics

–TUTOR–

Arkansas State University, Searcy | Career Pathways
Harding University | Academic Resource Center

ADVISING

PhD Advisor	Elliot Burghardt	Biostatistics
Committee member	Brandon Butcher	Biostatistics
	Kyle Peterson	Interdisciplinary Graduate Program in Informatics
	Adriana Maldonado	Community and Behavioral Health
	Michael Seerdorff	Biostatistics
	Christine Kava	Community and Behavioral Health

FINANCIAL SUPPORT

–ACTIVE–

Care Coordination Networks (Public Policy Center Summer Scholars Project)

University of Iowa Prevention Research Center for Rural Health (5 U48 DP005021-05)
 Contact Network Transmission Modeling of Healthcare Associated Infections (5 U01 CK000531-02)
 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)
 Market to Mouth Infant Food Contamination Study: A Collaboration between the Safe Start Study and IFPRI (2018X134.UOI)

–COMPLETED–

New Faculty Research Award
 Junior Faculty Research Opportunity Award
 e-Health (82154300)
 Iowa Summer Institute for Research Education in Biostatistics (1 1298500)

PRESENTATIONS

–INVITED TALKS–

2020 “Model-based edge clustering,” at Department of Statistics, University of Iowa
 2019 “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
 2019 “Network analysis: Applications and extant challenges,” at the University of Iowa, Department of Applied Mathematical and Computational Sciences
 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 17th *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 | “Bayesian Hierarchical Clustering,” at *Joint Statistical Meetings*, Philadelphia, PA
- 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

Annals of Applied Statistics

Bayesian Statistics

Biometrics

BMJ Open

Computational Statistics and Data Analysis

Expert Systems with Applications

Extremes

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 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

PROFESSIONAL EXPERIENCE

Consultant: Illinois Consulting Office, University of Illinois, 2012-2015

Actuarial Examination: Successful passing score on SOA/CAS/CIA Exam P/1 (Probability)

PROFESSIONAL ACTIVITIES

2018-present	Biostatistics Colloquium Committee (Chair)
2018-present	Chapter representative of the Iowa Chapter of the American Statistical Association
2016-2018	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-present	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

International Network for Social Network Analysis

American Statistical Association

Institute of Mathematical Statistics

International Society for Bayesian Analysis