ZHENKE WU

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Ann Arbor, MI 48109-2029
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EDUCATION

2014   **Johns Hopkins Bloomberg School of Public Health**, Baltimore, MD
Ph.D. in Biostatistics
Thesis title: *Statistical Methods for Individualized Health: Etiology, Diagnosis, and Intervention Evaluation*
Advisors: Scott Zeger and Constantine Frangakis

2009   **Fudan University**, Shanghai, China
B.Sc. in Mathematics

PROFESSIONAL EXPERIENCE

2016 - present   **Assistant Professor**
Department of Biostatistics, University of Michigan
Research Assistant Professor
Michigan Institute for Data Science (MIDAS), University of Michigan

2017 - present   **Faculty Associate**
Quantitative Methodology Program, Survey Research Center
Institute for Social Research (ISR), University of Michigan

2016- present   **Member**
Cancer Epidemiology and Prevention (CEP) research program, Rogel Cancer Center

2018 - present   **Member**
Institute for Health Policy Innovation, University of Michigan

2014 - 2016   **Postdoctoral Fellow**
Hopkins individualized Health (*in*Health), Johns Hopkins University
Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health

2014 - 2016   **Co-lead Statistician**
Pneumonia Etiology Research for Child Health (PERCH) funded by Gates Foundation, International Vaccine Access Center (IVAC), Johns Hopkins Bloomberg School of Public Health
Principal Investigator: Katherine O'Brien

2015 August   **Visiting Scholar**
Combining Health Information, Computation and Statistics (CHICAS)
Lancaster University, Lancaster, England

2013 - 2014   **External Consultant**
Child Health Research Foundation (CHRF), Dhaka, Bangladesh; National Center for Immunization and Respiratory Diseases (NCIRD), The U.S. CDC

2010 - 2014   **Research Assistant**
International Vaccine Access Center (IVAC), Johns Hopkins Bloomberg School of Public Health

Advisor: Scott Zeger; *Principal Investigator*: Katherine O'Brien

2008	**Research Scholar**
	California NanoSystems Institute, and Department of Mechanical and Aerospace Engineering, University of California, Los Angeles
2007 - 2009	**Research Scholar**
	Center for Computational Systems Biology, Fudan University, Shanghai, China

PROFESSIONAL ACTIVITIES (*upcoming)

Committee Member	Eastern North American Regional Meeting of the International Biometric Society - Regional Advisory Board (2018-2020) - Educational Advisory Committee (2018; Atlanta, GA)
Session Organizer	*Statistical Methods for Improving Inferences and Decision-Making in Population Health*, Joint Statistical Meeting (July 27 - August 1, 2019, Denver, CO)
Session Chair	*Towards a Learning-Health System: Methods and Strategies for Data-Driven Healthcare*, Joint Statistical Meetings (July 29 - August 3, 2017; Baltimore, MD)
Member	MIDAS mobile sensor analytics working group
	Hopkins inHealth (HiH) Learning Methodologies Working Group
Founding Member	Chinese Public Health Forum (CPHF) at Johns Hopkins, 2010-12
Consultant	Studio Consultation, Johns Hopkins Institute for Clinical and Transnational Research (ICTR)
Hosted Attendee	Statistical Methods for Developing Personalized Mobile Health Interventions, National University of Singapore, Feb 4 - March 1, 2019
	Program on Statistical, Mathematical, and Computational Methods for Precision Medicine (PMED), SAMSI, Raleigh, Durham, NC. August 13-17, 2018.
	Methods Summit. PCORI Annual Meeting: Building a Patient-Centered Research Community. Arlington VA. October 6-8, 2015
Panelist	Foundations of Data Science. Fifth Bayesian, Fiducial and Frequentist Conference (BFF5) (May 6-9, 2018; Ann Arbor, MI)
Referee	**Journals**: *Biometrics (6), Biostatistics (1), Journal of Business and Economic Statistics (1), Statistics in Medicine (4), Annals of Statistics (1), Computational Statistics and Data Analysis (1), Epidemiology (1), Statistical Science (1), Sankhya (The Indian Journal of Statistics) (1), Technometrics (1), Nature Partner Journal (npj) Digital Medicine (1), International Journal of Epidemiology (1), Ophthalmic Epidemiology (1), Psychiatric Services (1)*
	The numbers in parentheses indicate the number of manuscripts reviewed or currently reviewing, excluding revisions or resubmissions.
	Grants: 2017, 2018 Michigan Institute for Clinical and Health Research (MICHR) Pilot Grant; 2016 Johns Hopkins Individualized Health Initiative Request for Proposal (RFP); 2016 Methodology Research Grant, Medical Research Council, United Kingdom
	Final Reports: Patient-Centered Outcomes Research Institute (PCORI) (1)

HONORS AND AWARDS

UNIVERSITY OF MICHIGAN

2019 Co-winner of Shark Tank for Research Ideas in Data Science and Statistics (STRIDES); joint with Gongjun Xu (Michigan Statistics), February 1. Michigan Biostat/Stat Research Retreat.

2018 Chair's Faculty Citizenship Award

2017 Travel Award for ENAR Junior Investigator Workshop, International Biometric Society. Washington, DC.

JOHNS HOPKINS UNIVERSITY

2016 New Researcher Conference Travel Award, Institute of Mathematical Statistics. Madison, WI.

2015 Top Performer for 2015 Prostate Cancer DREAM Challenge 1b; As part of *Bmore Dream Team*. Press Release.

2015 Scholarship for Summer Institute in Statistics and Modeling in Infectious Diseases. University of Washington, Seattle, WA

2015 NSF Big Data Travel award for Drawing Causal Inference from Big Data. National Academy of Sciences, Washington DC

2015 Induction into Alpha Chapter of *Delta Omega* Public Health Honor Society

2015 Induction into *Phi Beta Kappa* Honor Society

2014 First Place: Biostatistics Section of the Delta Omega Poster Competition

2012, 2013 Joseph Zeger Travel Award to ENAR and JSM

2012 June B. Culley Award, for outstanding achievement on school-wide oral exam paper

2011-14 Johns Hopkins Sommer Scholar

2009-14 Department of Biostatistics Graduate Fellowship

UNIVERSITY OF CALIFORNIA, LOS ANGELES

2008 UCLA-China Cross Disciplinary Scholarship in Science and Technology (CSST)

FUDAN UNIVERSITY

2009 B.Sc. with First Class Honors

2007-09 Chun-Tsung Scholar, Chinese Undergraduate Research Endowment (CURE) Scholarship

2008 First Class National Scholarship, Ministry of Education, China

2007 Excellent Undergraduate Student, Government of Shanghai

2006-07 First Class People's Scholarship

2006 First Class Shi Dai Scholarship

PUBLICATIONS   (†: alphabetical order; ♯: advisee)

JOURNAL ARTICLES (STATISTICAL METHODOLOGY)

Wu Z, Casciola-Rosen L, Shah AA, Rosen A, Zeger SL (2019). Estimating AutoAntibody Signatures to Detect Autoimmune Disease Patient Subsets. *Biostatistics*, 20 (1): 30-47. doi:10.1093/biostatistics/kxx061.

Wu Z, Deloria-Knoll M, and Zeger SL (2017). Nested Partially-Latent Class Models (npLCM) for Dependent Binary Data; Estimating Disease Etiology. *Biostatistics*, 18 (2): 200-213. doi:10.1093/biostatistics/kxw037.

Wu Z, Deloria-Knoll M, Hammitt LL, and Zeger SL, for the PERCH Core Team (2016). Partially Latent Class

Models (pLCM) for Case-Control Studies of Childhood Pneumonia Etiology. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 65: 97-114. doi: 10.1111/rssc.12101.

Bmore Dream Team: Deng D, Du Y, Ji Z, Rao K, **Wu Z**, Zhu Y, Coley RY (2016). Predicting Survival Time for Metastatic Castration-Resistant Prostate Cancer: An Iterative Imputation Approach. *F1000Research 2016, 5:2672*. doi: 10.12688/f1000research.8628.1.

Frangakis CE, Qian T, **Wu Z**, Diaz I (2015). Deductive Derivation and Turing-computerization of Semiparametric Efficient Estimation. *Biometrics*. doi:10.1111/biom.12362. Discussion paper.

Frangakis CE, Qian T, **Wu Z**, Diaz I (2015). Rejoinder: Deductive Derivation and Turing-computerization of Semiparametric Efficient Estimation. *Biometrics*. doi:10.1111/biom.12365.

Wu Z, Frangakis CE, Louis TA, Scharfstein DO (2014). Estimating Treatment Effects in Cluster Randomized Trials by Calibrating Covariate Imbalances between Clusters. *Biometrics*, 70: 1014-1022. doi: 10.1111/biom.12214.

JOURNAL ARTICLES (SUBSTANTIVE RESEARCH)

Fritsche L, Gruber SB, **Wu Z**, Schmidt E, Zawistowski M, Moser SE, Blanc VM, Brummet CM, Kheterpal S, Abecasis GR, Mukherjee B (2018). Association of Polygenic Risk Scores for Multiple Cancers in a Phenome-wide Study: Results from The Michigan Genomics Initiative. *American Journal of Human Genetics*, 102 (6): 1048-1061. https://doi.org/10.1016/j.ajhg.2018.04.001.

Deloria-Knoll M, Fu W, Shi Q, Prosperi C, **Wu Z**, Hammitt LL, Feikin DR, Baggett HC, Howie SRC, Scott JAG, Murdoch DR, Madhi SA, Thea DM, Brooks WA, Kotloff KL, Li M, Park DE, Lin W, Levine OS, O'Brien KL, Zeger SL (2017). Bayesian Estimation of Pneumonia Etiology: Epidemiologic Considerations and Applications to PERCH. *Clinical Infectious Diseases*, 64 (suppl 3): S213-S227. doi: 10.1093/cid/cix144.

Georgiades C, Geschwind J-F, Neil H, Hines-Peralta A, Liapi E, Hong K, **Wu Z**, Kamel I, Frangakis CE (2012). Lack of response after initial chemoembolization for hepatocellular carcinoma: Does it predict failure of subsequent treatment? *Radiology*, 265:115-123.

JOURNAL ARTICLES (SUBSTANTIVE RESEARCH; GROUP AUTHORSHIP)

PERCH Study Group[‡] (**Wu Z** as PERCH Co-Lead Statistician) (2019). Aetiology of serious hospitalised pneumonia in HIV-uninfected children from Africa and Asia: the Pneumonia Etiology Research for Child Health (PERCH) Case-Control Study. *The Lancet*. In Press.

[‡] : No separate authors listed (group authorship only); First ever application of partially-latent class analysis (Wu et al. 2016) for pneumonia etiology research; Data: $\sim 5,000$ cases and $\sim 5,000$ controls from 7 Sub-Saharan African and Southeast Asian Countries.

Wu Z as part of the PERCH Study Group (2017). **16 articles** in *Clinical Infectious Diseases*; 64 (suppl 3). Link to the complete list: https://goo.gl/3egRN1.

Seyednasrollah F et al. - **Wu Z** in Prostate Cancer DREAM Challenge Community (2017). A DREAM Challenge to Build Prediction Models for Short-Term Discontinuation of Docetaxel in Metastatic Castration-Resistant Prostate Cancer. *JCO Clinical Cancer Informatics* 1, 1-15. doi: 10.1200/CCI.17.00018

Guinney J et al. - **Wu Z** in PCC DREAM Consortium (2017). Prediction of Overall Survival for Patients with Metastatic Castration-Resistant Prostate Cancer: Development of A Prognostic Model Through A Crowdsourced Challenge with Open Clinical Trial Data. *The Lancet Oncology*, 18 (1): 132-142. doi: 10.1016/S1470-2045(16)30560-5.

OTHER REFEREED PUBLICATIONS

Xu, G, **Wu, Z** and Murphy, SA (2018). Micro-Randomized Trial. In Wiley StatsRef: Statistics Reference Online (eds N. Balakrishnan, T. Colton, B. Everitt, W. Piegorsch, F. Ruggeri and J. L. Teugels). doi:10.1002/9781118445112.stat08050

UNDER REVIEW/REVISION

Wu Z, Casciola-Rosen L, Rosen A, Zeger SL (2019+). A Bayesian Approach to Restricted Latent Class Models for Scientifically-Structured Clustering of Multivariate Binary Outcomes. *Submitted*. https://doi.org/10.1101/400192.

Wu Z and Chen I[♯] (2019+). Regression Analysis of Dependent Binary Data: Estimating Disease Etiology from Case-Control Studies. *Submitted*. [pdf]

Wu Z, Xu G and Murphy SA (2019+). Statistics in mHealth/Just in Time Adaptive Intervention. *In preparation for Wiley StatsRef: Statistics Reference Online*.

NeCamp T[♯], **Wu Z**, Frank E, Walton M, Ionides E, Fang Y, Tewari A, Sen S (2019+). Assessing Real-Time Moderation for Developing Adaptive Mobile Health Interventions for Medical Interns: A Micro-Randomized Trial. *Submitted to JMIR.*

Boss J, Chen YH, Narisetty, NN, **Wu Z**, Ferguson K, Meeker J, Mukherjee B (2019+). A Hierarchical Integrative Grouped Lasso (HIGLASSO) Framework for Analyzing Environmental Mixtures. *Submitted to AOAS.*

Wang J, Du L, **Wu Z**, Zou C (2019+). Dynamic tracking and screening in massive data streams. *Revise and resubmit for Annals of Statistics.*

Kuang H, **Wu Z**, Fujiwara H, Whitesall S, Zajac C, Choi SW, Reddy P, Tewari M (2019+). Computational Analysis of Continuous Body Temperature Provides Early Discrimination of Graft-versus-Host Disease in Mice Undergoing Hematopoietic Cell Transplantation. *Submitted.*

SOFTWARE

baker:	Bayesian Analysis Kit for Etiology Research - Fitting and visualizing Bayesian nested partially-latent class models for estimating disease etiology
	https://github.com/zhenkewu/baker
mpcr:	Robust covariate-calibrated estimation of treatment effect in matched-pair cluster randomized trials.
	https://github.com/zhenkewu/mpcr
spotgear:	Subset Profiling and Organizing Tools for Gel Electrophoresis Autoradiography in R
	https://github.com/zhenkewu/spotgear
rewind:	Reconstructing Etiology with Binary Decomposition
	https://github.com/zhenkewu/rewind

TEACHING AND ADVISING   (see website for materials)

ADVISING (*expected graduation)

2017-2019	Tim NeCamp, PhD student (**Co-Chair** with Edward Ionides).
	Design and Analysis of Sequential Randomized Trials with Applications to Mental Health and Online Education. NSF Graduate Research Fellow. Department of Statistics, University of Michigan
2022*	Mengbing Li, PhD student. Department of Biostatistics, University of Michigan
2023*	Irena Chen, PhD student. Department of Biostatistics, University of Michigan

PRELIMINARY ORAL PARTICIPATION (*upcoming)

2019	Lan Luo (Biostat), Youfei Yu* (Biostat)
2018	Yuqi Gu (Stat), April Cho (Stat), Tim NeCamp (Stat)

FINAL ORAL PARTICIPATION (*upcoming)

2019	Tim NeCamp (Stat), Ruofei Zhao (Stat)
2018	Jun Guo (Stat)

MENTOR

2017 Summer	Big Data Summer Institute, NIH BD2K R25 (PI: Mukherjee)
	Undergraduate Projects on Statistical Methods for **Electronic Health Records** (data: Michigan Genomics Initiative). Department of Biostatistics, University of Michigan

INSTRUCTOR

2020 Fall*	Applied Generalized Linear Models (to be offered through **Coursera**; Applied Statistical Modeling Concentration; Online MPH Program at University of Michigan School of Public Health)
2018 Fall	Applied Stats III: Longitudinal Analysis (BIOSTAT 653), Department of Biostatistics, University of Michigan. 47 Master/Doctoral Biostat Students.
2017 Fall	Statistical Methods in Epidemiology (BIOSTAT 523), Department of Biostatistics, University of Michigan. 84 Master/Doctoral Epidemiology Students.
2016 Fall	Statistical and Computational Methods for Learning through Graphical Models (Advanced Topics in Biostatistics; BIOSTAT 830), Department of Biostatistics, University of Michigan. 11 Doctoral Students.
2014	Statistical Methods for Individualizing Health (Short course taught with Scott Zeger),
	Mayo Clinic, Department of Health Sciences Research, November 17, Rochester, MN.

GUEST LECTURER

2018, 2019*	Causal Inference. Big Data Summer Institute, Department of Biostatistics, University of Michigan. June.
2017	Network. Big Data Summer Institute, Department of Biostatistics, University of Michigan. June 22. Link: http://bigdatasummerinst.sph.umich.edu/wiki/index.php/Main_Page.

2016	Predicting Survival Time for Metastatic Castration Resistant Prostate Cancer: An Iterative Imputation Approach. Cancer Biostatistics Seminar Course (BIOSTAT 803), Department of Biostatistics, University of Michigan (Instructor: Jeremy M G Taylor). October 28.
2016	Data Visualization for Individualized Health via `ggplot2`. Public Health Studies, Undergraduate Seminar Course, Johns Hopkins University (taught by Yates Coley). March 1.
2016	Methods in Biostatistics (140.653; Master-level). Johns Hopkins University. February 11.
2015	A Survey of Automatic Bayesian Software and Why You Should Care. Hopkins Biostatistics Student Computing Club.
2015	Exploring the Posterior Distribution by Markov chain Monte Carlo. Hopkins Biostatistics Student Computing Club.
2014	Introduction to Empirical Processes and Semiparametric Inference. SLAM Working Group.
2012	Advanced Special Topics in Statistical Machine Learning, 140.840 (taught by Han Liu).

TEACHING ASSISTANT

2014	Multilevel Statistical Models, Graduate, 140.656 (taught by Elizabeth Colantuoni).
2014	Analysis of Longitudinal Data, Graduate, 140.655 (taught by Elizabeth Colantuoni).
2013	Biostatistics in Public Health, Undergraduate, 280.346 (taught by Scott Zeger).
2013	Case-based Introduction to Biostatistics, **www.coursera.org** (taught by Scott Zeger;$\sim 23,000$ global enrollments).
2013	Bayesian Methods **I-II**, Graduate, 140.762-763 (taught by Gary Rosner).
2012	Biostatistics in Public Health, Undergraduate, 280.346 (taught by Scott Zeger).
2011-12	Advanced Probability Theory **I-II**, Graduate, 550.620 - 621 (taught by James Fill).
2010-11	Essentials of Probability and Statistical Inference **I-IV**, Graduate, 140.646-649 (taught by Michael Rosenblum and Charles Rohde).

PRESENTATIONS   (*upcoming)

ORAL: INVITED

2019*	TBA. International Indian Statistical Association Conference. December 26-30, IIT Bombay, Mumbai, India.
2019*	Dynamic Bayesian Prediction and Calibration using Multivariate Sensor Data Streams. 11th International Chinese Statistical Association (ICSA) **International** Conference. December 20-22, Zhejiang University, Hangzhou, China.
2019*	TBA. Department of Statistics, Taxes A&M University, September 13, College Station TX.
2019*	TBA. Department of Statistics and Data Science (SDS), University of Texas at Austin, August 30th, Austin TX.
2019*	TBA. Invited Session: *Statistical Methods for Improving Inferences and Decision-Making in Population Health*, Joint Statistical Meeting, July 27 - August 1, Denver, Colorado.
2019*	TBA. Symposium for Big Data Summer Institute. July 25. Ann Arbor, MI.

2019*   Regression Analysis of Dependent Binary Data for Estimating Disease Etiology from Case-Control Studies.

- 2019 International Chinese Statistical Association (ICSA) **China** Conference. July 1-4, Naikai University, Tianjin, China.
- 3rd International Conference on Econometrics and Statistics (EcoStat 2019). Session: "Recent applications of latent variable models". June 25-27, National Chung Hsing University (NCHU), Taichung, Taiwan.

2019   Sparse latent class regression for multivariate binary data: A Bayesian approach. Applied International Chinese Statistical Association (ICSA) Statistics Symposium. Session: "Latent attribute models and their applications". June 9-12, Raleigh, North Carolina.

2019   Latent variable regression analysis of longitudinal multivariate data with irregular and informative observation times. Invited Workshop *Statistical Methods for Developing Personalized Mobile Health Interventions*, Feb 4 - March 1, National University of Singapore.

2018   Estimating clusters from multivariate binary data via hierarchical Bayesian Boolean matrix factorization. 2nd International Conference on Econometrics and Statistics (EcoStat 2018). June 19-21, The City University of Hong Kong.

2018   Partially Observed Dynamic Models for Tracking Therapeutic and Engagement Outcomes. "Statistics Methods and Applications in Mobile Health", Applied Statistics Symposium. International Chinese Statistical Association (ICSA). June 14-17, New Brunswick, NJ, USA.

2018   Junior Faculty Lightning Talks. Cancer Control and Population Sciences (CCPS), University of Michigan Cancer Center. May 4.

2018   Predicting mood using multivariate mobile sensor data streams for medical interns. Health Sciences Challenge Symposium. Michigan Institute for Data Sciences, University of Michigan. May 1.

2018   Bayesian Hierarchical Methods to Power Disease Discovery and Improve Clinical Decisions. Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSISS) University of Michigan. Apr 2-3. **Junior Faculty Keynote Speaker**.

2017   Partially Observed Dynamic Models for Therapeutic and Engagement Outcomes. Statistical Reinforcement Learning Lab. December 22. Department of Statistics, Harvard University, Cambridge, MA.

2017   Estimating AutoAntibody Signatures to Detect Autoimmune Disease Patient Subsets.

- Rheumatology Data Science Meeting. December 1, Johns Hopkins School of Medicine, Bayview Medical Center.
- International Biometric Society, Brazilian Regional Meeting. July 24 - July 28, Federal University of Lavras (UFLA), Lavras, MG, Brazil. **Conference Plenary Talk**.
- Big Data Summer Institute, University of Michigan. July 10, Ann Arbor, MI.
- Interdisciplinary Group Seminar (IGS), Center for Statistical Genetics, University of Michigan. November 29, 2016, Ann Arbor, MI

2016   Statistical Methods for Individualized Health. Annual School of Public Health Excellence in Research Symposium, University of Michigan. November 11, Ann Arbor, MI.

2016   Bayesian Nested Partially-Latent Class Models for Dependent Binary Data; Estimating Disease Etiology.

- 9th International Conference of the ERCIM WG on Computational and Methodological Statistics. December 9-11, University of Seville, Spain.
- Department of Biostatistics, University of Michigan. February 25, Ann Arbor, MI.
- Department of Biostatistics, University of Massachusetts, Amherst. February 5, Amherst, MA.
- Biostatistics Research Branch, Division of Clinical Research, National Institute of Allergy and Infectious Diseases, NIH. February 1, Rockville, MD.

2016   Sparse Latent Class Regression for Multivariate Binary Data; A Bayesian Approach. Survival, Longitudinal and Multivariate Data Working Group. Department of Biostatistics, Johns Hopkins University. May 6, Baltimore, MD.

2015   Informative Bayes Models for Estimating Disease Etiology.

- Biostatistics Grand Rounds, Johns Hopkins Bloomberg School of Public Health. November 9, Baltimore, MD.
- CHICAS, Medical School, Lancaster University. August 17, Lancaster, England.
- Department of Biostatistics, Brown University. February 17, Providence, RI.

2014   Partially Latent Class Models (npLCM) for Case-Control Studies of Childhood Pneumonia Etiology. SLAM Working Group. December 12, Baltimore, MD.

2014   Partially Latent Class Models (npLCM) for Case-Control Studies of Childhood Pneumonia Etiology. Pneumonia Etiology Research for Child Health (PERCH) Executive Committee Meeting. December 2, London, England.

2013   Estimating Infectious Etiology from Hierarchical Dirichlet Process Perspective. Pneumonia Etiology Research for Child Health (PERCH) Executive Committee Meeting. December 2, London, England.

2013   Partially Latent Class Models (pLCM) for Case-Control Studies of Childhood Pneumonia Etiology. US Centers for Disease Control and Child Health Research Foundation: Aetiology of Neonatal Infection in South Asia (ANISA) Project Committee Meeting. November 10, San Diego, CA.

2012   Revealing and Addressing Existing Basic Inadequacies in the Use of Paired Cluster Randomized Trials. Department of Biostatistics. Johns Hopkins Biostatistics Causal Inference Working Group. December 6, Baltimore, MD.

ORAL: CONTRIBUTED

2018   Estimating clusters from multivariate binary data via hierarchical Bayesian Boolean matrix factorization. Joint Statistical Meeting. July 28-August 2, Vancouver, Canada.

2018   Mixed Membership Regression Models for Estimating Autoimmune Disease Patient Subsets. Eastern North American Regional meeting of the International Biometric Society. March 25-28, Atlanta, GA.

2017   Detecting Autoimmune Disease Subsets for Estimated Autoantibody Signatures. Eastern North American Regional meeting of the International Biometric Society. March 12-15, Washington, DC.

2016   Sparse Latent Class Regression for Multivariate Binary Data; A Bayesian Approach. Joint Statistical Meetings. July 31-August 4, Chicago, IL.

2016   Bayesian Regression Analysis for Estimating Disease Etiology. Eastern North American Regional meeting of the International Biometric Society. March 6-9, Austin, TX.

2015 Bayesian Nested-Partially Latent Class Models for Estimating Disease Etiology. Eastern North American Regional meeting of the International Biometric Society. March 15-18, Miami, FL.

2014 Nested Partially Latent Class Models (npLCM) for Case-Control Studies of Childhood Pneumonia Etiology. Joint Statistical Meetings. August 7, Boston, MA.

2014 Estimating Treatment Effects in Cluster Randomized Trials by Calibrating Covariate Imbalances between Clusters. Eastern North American Regional meeting of the International Biometric Society. March 18, Baltimore, MD.

2013 Estimating Treatment Effects in Cluster Randomized Trials by Calibrating Covariate Imbalances between Clusters. Joint Statistical Meeting. August 4, Montreal, QC, Canada.

POSTER

2018 A Bayesian Approach to Restricted Latent Class Models for Scientifically-Structured Clustering of Multivariate Binary Outcomes.

- MIDAS Annual Symposium, October 9-10, University of Michigan, Ann Arbor, MI.
- Program on Statistical, Mathematical, and Computational Methods for Precision Medicine (PMED), SAMSI. August 14, Raleigh, NC.
- 25th Model-Based Clustering Workshop. July 16-20, University of Michigan, Ann Arbor, MI.

2017 Estimating AutoAntibody Signatures to Detect Autoimmune Disease Patient Subsets. Data Science Research Forum. December 1, University of Michigan, Ann Arbor, MI.

2016 Bayesian Nested-Partially Latent Class Models for Estimating Disease Etiology. 18th Meeting of New Researcher Conference in Statistics and Probability. July 28-30, University of Wisconsin, Madison.

2014 Estimating Childhood Pneumonia Episodes Attributable to Putative Pathogens from Indirect Measurements: Seasonality and Impact of HIV Infection. Delta Omega Scientific Poster Competition. Feburary 8, Baltimore, MD.

2013 Hierarchical Bayesian Model for Combining Information from Multiple Biological Samples with Measurement Errors: An Application to Children Pneumonia Etiology Study. Eastern North American Regional meeting of the International Biometric Society. March 12, Orlando, FL.

RESEARCH GRANT PARTICIPATION

FUNDED

Principal Investigator, Precision Health Investigator Awards 12/01/2018 - 12/01/2020
Bayesian Hierarchical Models for Using Mobile Technology to Individualize Care in Mental Health
Precision Health at University of Michigan; Total: $300,000
Effort: 20%.

Co-PI (with Gongjun Xu) 03/01/2019 - 03/01/2020
Structured Latent Variable Models for Multivariate Binary Data Observed over Taxonomies
Shark Tank for Research Ideas in Data Science and Statistics (STRIDES), Department of Biostatistics and Statistics, University of Michigan; Total: $15,000
Co-PI (with Yang Chen and Gongjun Xu), Mcubed 3.0 09/01/2018 - 12/31/2020
Personalized Diagnosis for Disease Etiology Studies and Cognitive Assessment
University of Michigan; Total: $60,000

Co-Investigator, NIH 2R01MH101459 (PI: Sen; U of Michigan) 07/01/2018 - 03/31/2023

Mobile Technology to Identify Mechanisms Linking Genetic Variation and Depression
Effort: 10%.

Subcontract PI, NIH R01AR073208 (PIs: Casciola-Rosen and Shah; Hopkins)   04/01/2018 - 03/31/2023
Autoantibodies Define Scleroderma Subgroups with Distinct Relationships to Cancer
Subcontract to UMich 18-PAF07330; Effort: 13.5%.

Co-Investigator, NIH U01CA229437 (PI: Nahum-Shani, ISR, U of Michigan)   09/01/2018 - 08/31/2022
Novel use of mHealth data to identify states of vulnerability and receptivity to JITAIs
Effort: 10%

Co-Investigator, MIDAS Challenge Awards (PI: Sen)   03/01/2017-02/28/2019
Identifying Real-Time Data Predictors of Stress and Depression Using Mobile Technology.
Funding for methodological research in the area of health sciences, Michigan Institute for Data Science
(MIDAS), University of Michigan; Total: $521,051.

COMPLETED

Subcontract PI, PCORI ME-1408-20318 (PI: Zeger)   07/01/2015 - 08/31/2018
Bayesian Hierarchical Models for Design and Analysis of Studies to Individualize Healthcare.
Funding for Methodological Research, Patient-Centered Outcomes Research Institute.
Subcontract to UMich 17-PAF02898; Effort: 30%. $890,032.

Co-lead Statistician, Gates Foundation 305215 (PI: O'Brien)   09/01/2014-12/31/2017
Pneumonia Etiology Research for Child Health (PERCH).
Subcontract to UMich 17-PAF02901; Effort: 32%.

Investigator, Project Data Sphere, LLC (PDS) by AstraZeneca   10/01/2015-03/31/2016
Prostate Cancer DREAM Challenge Educational Program Award
$2307.69.

ACADEMIC SERVICE

DEPARTMENT OF BIOSTATISTICS, UNIVERSITY OF MICHIGAN

2018	Rod Little Distinguished Lectureship Organizing Committee
2018-	Computing, Social Media and Website Reform
2018	Faculty Speaker on Prospective Student Day, November 10
2017-18	Qualifying Exam Modernization Proposal
2017-18	Faculty Search
2017-	Seminars/Brown Bag
2016-17	Admissions

SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF MICHIGAN

2018 -	Health Informatics

MICHIGAN INSTITUTE OF DATA SCIENCE

2019   Program Committee, Annual MIDAS Symposium, November 14 -15

2016   Poster Competition Judge, Michigan Institute of Data Science Symposium, November 15