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EDUCATION

2006-2009	University of Iowa Ph.D., Biostatistics. <i>Received July 2009.</i>	Iowa City, IA
2004-2006	University of Iowa M.S., Biostatistics. <i>Received May 2006.</i>	Iowa City, IA
2002-2004	Iowa State University M.S., Biochemistry. <i>Received August 2004.</i>	Ames, IA
1998-2002	Iowa State University B.S., Mathematics, with honors. <i>Received May 2002.</i> B.S., Physics, with honors. <i>Received May 2002.</i>	Ames, IA

RESEARCH INTERESTS

- Methods for analyzing high-dimensional data
- Methods and algorithms for penalized likelihood models
- Analysis of genomic and genetic data
- Computational statistics

EMPLOYMENT

2017-Present	University of Iowa Associate professor, Department of Biostatistics	Iowa City, IA
2013-2017	University of Iowa Assistant professor, Department of Biostatistics	Iowa City, IA
2009-2013	University of Kentucky Assistant professor, Department of Biostatistics	Lexington, KY
2009-2013	University of Kentucky Assistant professor, Department of Statistics	Lexington, KY
2005-2006	Center for Public Health Statistics, University of Iowa Research assistant	Iowa City, IA

PEER-REVIEWED PUBLICATIONS

- ZIOGAS, I. A., TASOUDIS, P. T., BORBON, L. C., SHERMAN, S. K., BREHENY, P. J., CHANDRASEKHARAN, C., DILLON, J. S., BELLIZZI, A. M. and HOWE, J. R. (2023). Surgical management of g3 gastroenteropancreatic neuroendocrine neoplasms: A systematic review and meta-analysis. *Annals of Surgical Oncology*, **30** 148–160.

- WANG, C. and BREHENY, P. (2022). Adaptive hybrid screening for efficient lasso optimization. *Journal of Statistical Computation and Simulation*, **92** 2233–2256.
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- ANAND, S. T., RYCKMAN, K. K., BAER, R. J., CHARLTON, M. E., BREHENY, P. J., TERRY, W. W., MCLEMORE, M. R., KARASEK, D. A., JELLIFFE-PAWLOWSKI, L. L. and CHRISCHILLES, E. A. (2022). Hypertensive disorders of pregnancy among women with a history of leukemia or lymphoma. *Pregnancy Hypertension*, **29** 101–107.
- ANAND, S. T., CHRISCHILLES, E. A., BAER, R. J., CHARLTON, M. E., BREHENY, P. J., TERRY, W. W., MCLEMORE, M. R., KARASEK, D. A., JELLIFFE-PAWLOWSKI, L. L. and RYCKMAN, K. K. (2022). The risk of preterm birth among women with a history of leukemia or lymphoma. *The Journal of Maternal-Fetal & Neonatal Medicine*, **35** 6115–6123. PMID: 33832388.
- ANAND, S. T., RYCKMAN, K. K., BAER, R. J., CHARLTON, M. E., BREHENY, P. J., TERRY, W. W., KOBER, K., OLTMAN, S., ROGERS, E. E., JELLIFFE-PAWLOWSKI, L. L. and CHRISCHILLES, E. A. (2022). Metabolic differences among newborns born to mothers with a history of leukemia or lymphoma. *The Journal of Maternal-Fetal & Neonatal Medicine*, **35** 6751–6758. PMID: 33980115.
- REISETTER, A. C. and BREHENY, P. (2021). Penalized linear mixed models for structured genetic data. *Genetic Epidemiology*, **45** 427–444.
- ZENG, Y., YANG, T. and BREHENY, P. (2021). Hybrid safe-strong rules for efficient optimization in lasso-type problems. *Computational Statistics and Data Analysis*, **153** 107063.
- ZENG, Y. and BREHENY, P. (2021). The biglasso package: a memory- and computation-efficient solver for lasso model fitting with big data in R. *R Journal*, **12** 6–19.
- DESAI, C., THOMASON, J., KOHLMAYER, J. L., REISETTER, A. C., AHIRWAR, P., JAHANSEIR, K., LEIDINGER, M., OFORI-AMANFO, G., FRITCHIE, K., VELU, S. E., BREHENY, P., QUELLE, D. E. and TANAS, M. R. (2021). Prognostic and therapeutic value of the Hippo pathway, RABL6A, and p53-MDM2 axes in sarcomas. *Oncotarget*, **12** 740–755.
- KAEMMER, C. A., UMESALMA, S., MAHARJAN, C. K., MOOSE, D. L., NARLA, G., MOTT, S. L., ZAMBA, G. K. D., BREHENY, P., DARBRO, B. W., BELLIZZI, A. M., HENRY, M. D. and QUELLE, D. E. (2021). Development and comparison of novel bioluminescent mouse models of pancreatic neuroendocrine neoplasm metastasis. *Scientific Reports*, **11** 10252.
- MAHARJAN, C. K., UMESALMA, S., KAEMMER, C. A., MUNIZ, V. P., BAUCHLE, C., MOTT, S. L., ZAMBA, K. D., BREHENY, P., LEIDINGER, M. R., DARBRO, B. W., STEPHENS, S. B., MEYERHOLZ, D. K. and QUELLE, D. E. (2021). RABL6A promotes pancreatic neuroendocrine tumor angiogenesis and progression in vivo. *Biomedicines*, **9**.
- SCOTT, A. T., TESSMANN, J. B., BRAUN, T., BROWN, B., BREHENY, P. J., DARBRO, B. W., BELLIZZI, A. M., DILLON, J. S., O’DORISIO, T. M., ALDERSON, A., BENNETT, B.,

- BERNAT, J. A., METZ, D. C. and HOWE, J. R. (2021). Presacral neuroendocrine tumors associated with the currarino syndrome. *American Journal of Medical Genetics Part A*, **185** 1582–1588.
- JASPER, E. A., CHO, H., BREHENY, P. J., BAO, W., DAGLE, J. M. and RYCKMAN, K. K. (2021). Perinatal determinants of growth trajectories in children born preterm. *PLOS ONE*, **16** 1–20.
 - WANG, S., ZIMMERMAN, D. L. and BREHENY, P. (2020). Sparsity-regularized skewness estimation for the multivariate skew normal and multivariate skew t distributions. *Journal of Multivariate Analysis*, **179** 104639.
 - SCOTT, A. T., WEITZ, M., BREHENY, P. J., EAR, P. H., DARBRO, B., BROWN, B. J., BRAUN, T. A., LI, G., UMESALMA, S., KAEMMER, C. A., MAHARJAN, C. K., QUELLE, D. E., BELLIZZI, A. M., CHANDRASEKHARAN, C., DILLON, J. S., O’DORISIO, T. M. and HOWE, J. R. (2020). Gene expression signatures identify novel therapeutics for metastatic pancreatic neuroendocrine tumors. *Clinical Cancer Research*, **26** 2011–2021.
 - YONG, C., MOOSE, D. L., BANNICK, N., GUTIERREZ, W. R., VANNESTE, M., SVENSSON, R., BREHENY, P., BROWN, J. A., DODD, R. D., COHEN, M. B. and HENRY, M. D. (2020). Locally invasive, castrate-resistant prostate cancer in a Pten/Trp53 double knockout mouse model of prostate cancer monitored with non-invasive bioluminescent imaging. *PLOS ONE*, **15** 1–15.
 - MOOSE, D. L., KROG, B. L., KIM, T.-H., ZHAO, L., WILLIAMS-PEREZ, S., BURKE, G., RHODES, L., VANNESTE, M., BREHENY, P., MILHEM, M., STIPP, C. S., ROWAT, A. C. and HENRY, M. D. (2020). Cancer cells resist mechanical destruction in circulation via RhoA/actomyosin-dependent mechano-adaptation. *Cell Reports*, **30** 3864–3874.
 - LIU, H., DUNCAN, K., HELVERSON, A., KUMARI, P., MUMM, C., XIAO, Y., CARLSON, J. C., DARBELLAY, F., VISEL, A., LESLIE, E., BREHENY, P., ERIVES, A. J. and CORNELL, R. A. (2020). Analysis of zebrafish periderm enhancers facilitates identification of a regulatory variant near human *KRT8/18*. *eLife*, **9** e51325.
 - MCCLINTOCK, T. S., KHAN, N., ALIMOVA, Y., AULISIO, M., HAN, D. Y. and BREHENY, P. (2020). Encoding the odor of cigarette smoke. *Journal of Neuroscience*, **40** 7043–7053.
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 - DE MARCH, C. A., TITLOW, W. B., SENGOKU, T., BREHENY, P., MATSUNAMI, H. and MCCLINTOCK, T. S. (2020). Modulation of the combinatorial code of odorant receptor response patterns in odorant mixtures. *Molecular and Cellular Neuroscience*, **104** 103469.
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 - XIAO, Q., JAMES, P., BREHENY, P., JIA, P., PARK, Y., ZHANG, D., FISHER, J. A., WARD, M. H. and JONES, R. R. (2020). Outdoor light at night and postmenopausal breast cancer

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- WILSON, G. M., JACKSON, V. B., BOYKEN, L. D., SCHWEIZER, M. L., DIEKEMA, D. J., PETERSEN, C. A., BREHENY, P. J., NONNENMANN, M. W. and PERENCEVICH, E. N. (2020). Bioaerosols generated from toilet flushing in rooms of patients with *Clostridioides difficile* infection. *Infection Control and Hospital Epidemiology*, **41** 517–521.
- BREHENY, P. J. (2019). Marginal false discovery rates for penalized regression models. *Biostatistics*, **20** 299–314.
- MILLER, R. E. and BREHENY, P. (2019). Marginal false discovery rate control for likelihood-based penalized regression models. *Biometrical Journal*, **61** 889–901.
- SMITH, C. J., JASPER, E. A., BAER, R. J., BREHENY, P. J., PAYNTER, R. A., BAO, W., ROBINSON, J. G., DAGLE, J. M., JELLIFFE-PAWLOWSKI, L. L. and RYCKMAN, K. K. (2019). Genetic risk scores for maternal lipid levels and their association with preterm birth. *Lipids*, **54** 641–650.
- DONOVAN, B. M., BREHENY, P. J., ROBINSON, J. G., BAER, R. J., SAFTLAS, A. F., BAO, W., GREINER, A. L., CARTER, K. D., OLTMAN, S. P., RAND, L., JELLIFFE-PAWLOWSKI, L. L. and RYCKMAN, K. K. (2019). Development and validation of a clinical model for pre-conception and early pregnancy risk prediction of gestational diabetes mellitus in nulliparous women. *PLOS ONE*, **14** 1–21.
- SCOTT, A. T., BREHENY, P. J., KECK, K. J., BELLIZZI, A. M., DILLON, J. S., O’DORISIO, T. M. and HOWE, J. R. (2019). Effective cytoreduction can be achieved in patients with numerous neuroendocrine tumor liver metastases (netlms). *Surgery*, **165** 166–175.
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- SMITH, C. J., BAER, R. J., OLTMAN, S. P., BREHENY, P. J., BAO, W., ROBINSON, J. G., DAGLE, J. M., LIANG, L., FEUER, S. K., CHAMBERS, C. D., JELLIFFE-PAWLOWSKI, L. L. and RYCKMAN, K. K. (2018). Maternal dyslipidemia and risk for preterm birth. *PLOS ONE*, **13** 1–10.
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- BREHENY, P. and BURCHETT, W. (2017). Visualization of regression models using *visreg*. *R Journal*, **9** 56–71.
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- BREHENY, P. and HUANG, J. (2011). Coordinate descent algorithms for nonconvex penalized regression, with applications to biological feature selection. *Annals of Applied Statistics*, **5** 232–253.
- GODE-POTRATZ, C. J., KUSTUSCH, R. J., BREHENY, P. J., WEISS, D. S. and MCCARTER, L. L. (2011). Surface sensing in vibrio parahaemolyticus triggers a programme of gene expression that promotes colonization and virulence. *Molecular Microbiology*, **79** 240–263.
- BREHENY, P. and HUANG, J. (2009). Penalized methods for bi-level variable selection. *Statistics and Its Interface*, **2** 369–380.
- OLESON, J. J., BREHENY, P. J., PENDERGAST, J. F., RYAN, S. and LITCHFIELD, R. (2008). Impact of travel distance on wisewoman intervention attendance for a rural population. *Preventive Medicine*, **47** 565–569.
- GFELLER, K., OLESON, J., KNUTSON, J. F., BREHENY, P., DRISCOLL, V. and OLSZEWSKI, C. (2008). Multivariate predictors of music perception and appraisal by adult cochlear implant users. *Journal of the American Academy of Audiology*, **19** 120.
- BREHENY, P. J., LAEDERACH, A., FULTON, D. B. and ANDREOTTI, A. H. (2003). Ligand specificity modulated by prolyl imide bond cis/trans isomerization in the Itk SH2 domain: a quantitative NMR study. *Journal of the American Chemical Society*, **125** 15706–15707.

PH.D. DISSERTATION

- BREHENY, P. Regularized methods for high-dimensional and bi-level variable selection. Dissertation advisor: Professor Jian Huang. Defended May 2009.

OTHER PUBLICATIONS

- BREHENY, P. (2014). Review of *Genomic Clinical Trials and Predictive Medicine*, by Richard Simon. *Journal of the American Statistical Association*, **109** 868–869.
- SCHOFIELD, M. and BREHENY, P. (2014). Review of *The BUGS Book: A Practical Introduction to Bayesian Analysis*, by David Lunn, et al. *The American Statistician*, 68: 63.
- BREHENY, P. (2011). Review of *Intuitive Biostatistics: A Nonmathematical Guide to Statistical Thinking*, by H. Motulsky. *The American Statistician*, 65: 67-68.
- *2005 Iowa Health Fact Book*, University of Iowa College of Public Health and the Iowa Department of Public Health.

SOFTWARE

Primary author and maintainer:

- [grpreg](#), an R package for computing regularized paths for regression models with grouped covariates.
- [ncvreg](#), an R package for fitting MCP- and SCAD-penalized regression models.
- [visreg](#), an R package for visualizing regression models.

Contributor:

- [grpregOverlap](#), extends the [grpreg](#) package to the case of overlapping groups.
- [biglasso](#), an R package for fitting lasso- and elastic-net-penalized regression models for big data (too large to fit into RAM).

SELECTED PRESENTATIONS

- Local False Discovery Rates for Nonconvex Penalties in High-Dimensional Regression Models. Invited. ENAR Spring meeting. Philadelphia, PA. March 2019.
- Marginal False Discovery Rates for Penalized Regression Models. Invited. Joint Statistical Meetings. Baltimore, MD. August 2017.
- Medicine, likelihood, and the mathematics of learning from experience. Keynote lecture. Mathematics Undergraduate Math Symposium, Simpson College. Indianola, IA. April 2016.
- Estimating false inclusion rates in penalized regression models. Invited. ENAR Spring Meeting. Austin, TX. March 2016

- Penalized regression approaches for genomics and genetic association studies. Iowa Institute of Human Genetics Bioinformatics Short Course 2014. Iowa City, IA. July 2014.
- Estimating false inclusion rates in penalized regression models. Invited. International Society for Nonparametric Statistics (ISNPS II). Cádiz, Spain. June 2014.
- Kernel-based aggregation of marker-level genetic association tests involving copy-number variation. Invited. Joint Statistical Meetings. Montreal, Canada. August 2013.
- Visualizing Regression Models using `visreg`. Joint Statistical Meetings. Montreal, Canada. August 2013.
- Group descent algorithms for nonconvex penalized linear and logistic regression models with grouped predictors. Joint Statistical Meetings. San Diego, CA. July 2012.
- Visualizing Regression Models using `visreg`. International R Users Meeting (useR). Nashville, TN. June 2012.
- Group exponential penalties for bi-level variable selection. Joint Statistical Meetings. Miami, FL. July 2011.
- Genetic association studies of copy-number variation: should assignment of copy number states precede testing? International Genetic Epidemiology Society Meetings. Boston, MA. October 2010.
- The MNet estimator. Joint Statistical Meetings. Vancouver, British Columbia. August 2010.
- Coordinate descent algorithms for nonconvex optimization. ENAR Spring Meeting. New Orleans, LA. March 2010.
- Coordinate descent algorithms for nonconvex penalized regression methods. Joint Statistical Meetings. Washington, D.C. August 2009.
- Statistical graphics and visualization using R and `GGobi`. Biostatistics Student Organization Seminar. Iowa City, IA. March 2009.
- A short guide to SAS macros. Iowa SAS Users Group. Iowa City, IA. February 2009.
- Bilevel feature selection with applications to genetic association studies. Invited. Fall Conference on Statistics in Biology. Ames, IA. October 2008.
- A general framework for bi-level variable selection. Joint Statistical Meetings. Denver, CO. August 2008.
- Impact of travel distance on WISEWOMAN intervention attendance. University of Iowa Research Week. Iowa City, IA. April 2008.
- Extending regression models using penalized approaches. Biostatistics Student Organization Seminar. Iowa City, IA. November 2007.

TEACHING

Instructor, University of Iowa

- BIOS 7110: Likelihood Theory and Extensions (F22, F21, F20)
- BIOS 4120: Introduction to Biostatistics (S22, S20, S18, S17, S15, S14, Su09)
- BIOS 7600: High-Dimensional Data Analysis (S21, S19, S16)
- BIOS 7210: Survival Data Analysis (F19, F18, F17, F15)
- BIOS 5710: Biostatistical Methods I (F16, F14)

Guest lecturer, University of Iowa

- BIOS 4110: General Biostatistics (Su22, Su21, Su20, Su19, Su18, Su17, Su16, Su15, Su14)
- TBM 5001: Intro to Translational Biomedicine (F18)
- Outreach: Topics in Human Genetics Short Course (Su22, Su20, Su18)
- EPID 5560: Molecular Epidemiology (S20, S18, S16, S15)
- CBH 6410: Advanced Interventions Research (S18)
- EPID 6250: Genetics and Epidemiology (F17)
- BIOS 5510: Biostatistical Computing (F08, F07)
- BIOS 7120: Theory of Biostatistics II (S09)
- BIOS 5720: Biostatistical Methods II (S08)

Instructor, University of Kentucky

- STA 580: Biostatistics I (S12, F10, S10, F09)
- BST 760: Advanced Regression (S13, S11)
- STA 621: Nonparametric Statistics (F12, F10)
- BST 701: Bayesian Modeling in Biostatistics (S13)
- BST 764: Applied Statistical Modeling for Medicine and Public Health (F11)
- STA 715: Readings in Statistics: Penalized Regression (F11)
- STA 715: Readings in Statistics: Analysis of Copy-Number Variation (S12)

Guest lecturer, University of Kentucky

- BST 675: Biometrics I (F12)
- CPH 701: Current topics in Public Health (F11)
- CPH 786: Doctoral Seminar (F10)

Teaching assistant, University of Iowa

- BIOS 5110: Introduction to Biostatistics (S05, F04)

Teaching assistant, Iowa State University

- BBMB 301: Survey of Biochemistry (S04)

Supplemental instructor, Iowa State University

- Math 166: Calculus II (S01, F00)

ADVISING

- Completed Ph.D. dissertations for which I was the doctoral advisor:
 - Feature screening rules and algorithms for efficient optimization of sparse regression models. Chuyi Wang, University of Iowa, July 2021.
 - Penalized linear mixed models for structured genetic data. Anna Reisetter, University of Iowa, May 2021.
 - Projection-based inference and model selection for penalized regression. Biyue Dai, University of Iowa, November 2019.
 - Regularized skewness parameter estimation for multivariate skew normal and skew t distributions. Sheng Wang, Department of Statistics, University of Iowa, May 2019. (co-advisor)
 - Marginal false discovery rate approaches to inference on penalized regression models. Ryan Miller, Department of Biostatistics, University of Iowa, June 2018.
 - Scalable sparse machine learning methods for big data. Yaohui Zeng, Department of Biostatistics, University of Iowa, November 2017.
 - Nonlinear hierarchical models for longitudinal experimental infection studies. Michael Singleton, Department of Biostatistics, University of Kentucky, March 2015.
 - Genetic association testing of copy number variation. Yinglei Li, Department of Statistics, University of Kentucky, October 2014.
- Currently serving as doctoral dissertation advisor for:
 - Collin Nolte (Biostatistics, University of Iowa)
 - Yoon Joo Cho (Biostatistics, University of Iowa)
 - Tabitha Peter (Biostatistics, University of Iowa)
 - Yujing Lu (Biostatistics, University of Iowa)
- Completed preceptorship projects for which I served as advisor (all in the Department of Biostatistics, University of Iowa):
 - Predicting progression of renal disease in C3G patients, Logan Harris, December 2021.
 - Expanding the `grpreg` package for sparse additive models, Ryan Kurth, May 2021.
 - A pretty neat thing (about R). Collin Nolte, December 2020.

- Genome-wide association study of sex differences in brain MRI scans and its genetic correlation to psychiatric disorders. Anna Gudjonsdottir, December 2019.
- Predicting protein structure by applying penalized classification methods to high-throughput two-hybrid screening. Helin Hernandez, December 2018.
- Differential expression in neuroendocrine tumors. Michelle Weitz, December 2018.
- Using CADD scores to inform bayesian analysis of genetic variants implicated in preterm birth. Michael Brumm, May 2018.
- Understanding the sense of smell through identification of olfactory receptors activated by various scents. Ziqian Chen, University of Iowa, May 2017.
- Empirical bayes analysis of overdispersed high-dimensional protein interaction data. Anna Reisetter, University of Iowa, May 2017.
- Comparing cross-validation methods in penalized Cox regression. Biyue Dai, University of Iowa, November 2016.
- Rare variant analysis of paired, case-only, whole-exome sequencing data from a study of preterm birth. Anthony Rhoads, University of Iowa, December 2015.
- Improving the accuracy of gene expression classifiers by incorporating pathway information: A latent group selection approach. Yaohui Zeng, University of Iowa, December 2014.
- Advisor for one completed M.P.H. capstone:
 - Statistical analysis of metabolite concentrations in heart tissue from four groups of mouse models in response to Adriamycin treatment. Zhenyu Huang, College of Public Health, University of Kentucky, November 2011.
- Currently serving on six doctoral committees
- Committee member for three completed M.P.H. capstones
- Committee member for twenty-five completed Ph.D. dissertations
- Committee member for one completed Dr.P.H. capstone

FUNDING (ACTIVE)

- National Institute of Child Health & Human Development grant 1-P50-HD103556-01A1, “UI Hawkeye Intellectual and Developmental Disabilities Research Center (HAWK-IDDRC)”. PI: Lane Strathearn. 7/16/2021-5/31/2026. Role: Co-investigator.
- National Institute of Neurological Disorders and Stroke grant 1-R01-NS119322-01A1, “Ink4a / ARF / Ink4b Locus in Neurofibromatosis Type 1”. PI: Dr. Rebecca Dodd, 3/1/22-2/28/27. Role: Co-investigator.
- National Cancer Institute grant 1-R01-CA263350-01A1, “Influence of Hemodynamic Shear Stress on Circulating Tumor Cells”. PI: Dr. Michael Henry, 2/15/22-1/31/27. Role: Co-investigator.
- National Cancer Institute grant 1-R01-CA260200-01, “Role of RABL6A-PP2A in Neuroendocrine Tumors”. PI: Dr. Dawn Quelle, 5/1/2021-4/30/2026. Role: Co-investigator.

- National Cancer Institute grant 1-R01-CA244271-01A1, “Sleep Disordered Breathing as a Targetable Risk Factor in Multiple Myeloma”. PI: Dr. Melissa Bates. 12/2021-1/2026. Role: Co-investigator.
- American Cancer Society grant RSG-20-017-01-CCE, “Sleep Disordered Breathing as a Targetable Risk Factor in Multiple Myeloma”. PI: Dr. Melissa Bates. 9/2020-8/2024. Role: Co-investigator.
- National Heart, Lung, and Blood Institute grant 1-R01-HL148796-01, “The Genomic Interface of microRNA Regulation and Heart Failure”, PI: Dr. Ryan Boudreau. 7/2019-6/2023. Role: Co-investigator.
- National Institute of Dental & Craniofacial Research grant 2-R56-DE023575-06, “Dissecting the Transcriptional Network Governing Differentiation of Periderm”. Contact PI: Dr. Robert Cornell. 4/2019-11/2023. Role: Co-investigator.
- National Cancer Institute grant 5-P30-CA086862, “Cancer Center Support Grant”. PI: Dr. George Weiner. 10/2013-3/2021. Role: Co-investigator.
- National Institutes of Health grant 1-R25-HL147231, “Iowa Summer Institute for Research Education in Biostatistics”. PI: Dr. Gideon Zamba. 3/2019-2/2022. Role: Co-Investigator.

FUNDING (COMPLETED)

- National Institute of Diabetes and Digestive and Kidney Diseases grant 1-R01-DK110023, “C3 Glomerulopathy – A Collaborative Study”. Contact PI: Dr. Richard Smith. 4/2017-3/2021. Role: Co-PI (1.2 calendar).
- American Foundation for Suicide Prevention grant BSG-1-005-18, “An Integrated Approach to Understanding the Biology of Suicidal Behavior. PI: Dr. Virginia Willour. 11/2019-10/2022. Role: Co-investigator (1.08 calendar).
- National Institute on Deafness and Other Communication Disorders grant 1- R01-DC014468, “In vivo patterns of receptor activation by odorants”. PI: Dr. Timothy McClintock. 12/2015-11/2020. Role: Co-investigator (1 calendar).
- National Institutes of Health grant 1-P50-CA174521, “Neuroendocrine Tumor Specialized Programs of Research Excellence (SPORE) in Human Cancer”. PI: Dr. Sue O’Dorisio. 9/1/15-8/31/20. Role: Co-investigator (0.6 calendar).
- National Institutes of Health grant 1-R25-HL131467, “Iowa Summer Institute for Research Education in Biostatistics”. PI: Dr. Gideon Zamba. 2/2016-1/2019. Role: Co-Investigator (.48 calendar).
- Small Business Innovation Research grant G968100-CG, “Improved Detection of Bladder Cancer Recurrence using a Biophysical Marker”. PI: Dr. Michael O’Donnell. 9/2017-9-2018. Role: Co-investigator (0.6 calendar).
- National Institute of Child Health and Human Development grant 1-R21-HD087864, “Newborn Metabolic Screening for Prediction of Childhood Respiratory Phenotypes”. PI: Dr. Kelli Ryckman. 4/2016-3/2018. Role: Co-investigator (1.2 calendar).

- National Institute of Biomedical Imaging and Bioengineering grant 1-R21-EB021870, “DEEPN strategy for large-scale differential protein interaction studies”. PI: Dr. Robert Piper. 12/2015-11/2017. Role: Co-investigator (1.2 calendar).
- Small Business Technology Transfer grant G797300-CG, “Improved Preparation of Cell Suspensions for Single Cell Genomics”. PI: Dr. Michael Henry. 7/2017-12/2017. Role: Co-investigator (0.6 calendar).
- National Institutes of Health grant 2-T15-HL07622, “Iowa Summer Institute in Biostatistics (ISIB)”. PI: Dr. Kathryn Chaloner. 3/2013-2/2016. Role: Co-investigator (0.48 calendar).
- Bill & Melinda Gates Foundation grant OPP52256, “The Role of Cholesterol in Preterm Birth”. PI: Dr. Kelli Ryckman. 1/1/10-12/31/14. Role: Biostatistician (1.2 calendar).
- Kentucky Biomedical Research Infrastructure Network grant, “KY IDeA Networks of Biomedical Research Excellence.” Principal investigator: Dr. Arnold Stromberg. 08/2012-07/2012. Role: Co-investigator (0.45 Academic, 08/2012-07/2013).
- National Institute on Aging grant 1-R21-AG040542-01A1, “Muscle, fat and NK lymphocytes in aging.” Principal investigator: Dr. Charles Lutz. 08/2012-07/2014. Role: Co-investigator (0.45 Academic, 08/2012-07/2013).
- Merck IISP ID 40305, “A study to compare the impact of a school based HPV program on vaccination uptake and completion rates.” Principal investigator: Dr. Christine Weyman. 08/2012-08/2013. Role: Consultant (0.25 Summer, 08/2012-07/2013).
- National Center for Research Resources grant 2-P20-RR020145-07, “Center for the Biologic Basis of Oral/Systemic Diseases”. Principal investigator: Dr. Jeffrey Ebersole. 9/2004-7/2014. Role: Co-investigator (0.9 Academic, 10/2010-07/2013).
- Dan and Virginia Martin Pediatric Research Fund, in association with the University of Kentucky Department of Pediatrics (internal funding). Role: Statistical support (0.9 Academic, 12/2010-07/2013).
- Altarum Institute grant SC-10-013, “Models of SNAP Nutrition education and Evaluation, Wave 2”. Principal investigator: Laura Stephenson. Role: Co-investigator (0.9 Summer, 05/2013-07/2013).
- National Institute of Child Health and Human Development grant 1-R21-HD059058-01-A2, “Farm to School: A Community-Based Program to Combat Childhood Obesity”. Principal investigator: Dr. Mark Swanson. 9/2010-8/2011. Role: Co-investigator (0.45 Summer, 9/2010-8/2012).
- University of Kentucky Summer Research Fellowship, “Visualization of regression functions”. Role: Principal investigator (5/2011-8/2011, funds used to support a graduate research assistant over the summer).
- National Institute of General Medical Sciences grant 5-T32-GM077973, “Statistics in microbiology, infectious diseases, and bioinformatics”. Principal investigator: Dr. Kathryn Chaloner. Role: Fellow (8/2006-7/2009).

PROFESSIONAL SERVICE

- Associate Editor, Reviews Section, *Journal of the American Statistical Association* and *The American Statistician*, 2013-present
- Associate Editor, *Computational Statistics and Data Analysis*, 2018-2020
- Awards Officer, Section on Statistical Computing and Section on Statistical Graphics, American Statistical Association, 2015-2017
- Review Editor, *Frontiers in Bioinformatics and Computational Biology*, 2011-2015
- Reviewer for grant proposal submitted to the National Security Agency (3)
- Refereed articles for the following journals:
 - *The Journal of the American Statistical Association* (8)
 - *Biometrics* (8)
 - *Journal of Computational and Graphical Statistics* (6)
 - *Statistics in Medicine* (6)
 - *Genetic Epidemiology* (4)
 - *Journal of Machine Learning Research* (3)
 - *Communications in Statistics: Theory and Methods* (3)
 - *Statistics and Computing* (3)
 - *The American Statistician* (3)
 - *Annals of the Institute of Statistical Mathematics* (3)
 - *Annals of Applied Statistics* (2)
 - *Journal of Statistical Computing and Simulation* (2)
 - *Scandinavian Journal of Statistics* (2)
 - *Biostatistics* (2)
 - *Computational Statistics and Data Analysis* (2)
 - *Statistical Papers* (2)
 - *Communications in Statistics: Simulation and Computation* (2)
 - *PLoS ONE* (2)
 - *Transactions on Computational Biology and Bioinformatics*
 - *Biometrical Journal*
 - *Frontiers in Psychology*
 - *Bioinformatics*
 - *BMC Bioinformatics*
 - *Empirical Economics*
 - *Statistics*
 - *Computational Statistics*
 - *Statistical Applications in Genetics and Molecular Biology*
 - *Statistical Modelling*
 - *Psychological Methods*
 - *Frontiers in Plant Science*
 - *Current Eye Research*
 - *Technometrics*
 - *Journal of Biometrics and Biostatistics*
 - *American Journal of Epidemiology*
 - *Frontiers in Genetics*
 - *Journal of Multivariate Analysis*
 - *Journal of Translational Medicine*
 - *Annals of Statistics*
 - *Cancer Epidemiology, Biomarkers & Prevention*
 - *OMICS: A Journal of Integrative Biology*
 - *Statistical Science*
 - *IEEE Transactions on Parallel and Distributed Systems*
 - *The Journal of Bayesian Analysis*

- Session chair, Joint Statistical Meetings, *2009-2012, 2014-2018*
- Session chair, ENAR Spring Meeting, *2010*
- Member, American Statistical Association, *2006-present*
- Member, Institute of Mathematical Statistics, *2005-present*

DEPARTMENTAL SERVICE

- PhD Exam Steering Committee, Department of Biostatistics, University of Iowa, 2014-present
- Promotion and Tenure Internal Peer Evaluation Committee, Department of Biostatistics, University of Iowa. Chair: 2021-2022; Member: 2020-2021
- Faculty Search Committee, Department of Biostatistics, University of Iowa, 2013-2014, 2014-2015, 2021-2022
- Computing Committee, Department of Biostatistics, University of Iowa. Chair 2015-present; Member 2013-15
- Student Awards Committee, Department of Biostatistics, University of Iowa, 2017-present
- Curriculum review committee, Department of Biostatistics, University of Iowa, 2017-2020
- PhD Comprehensive Exam Review Committee, Department of Biostatistics, University of Iowa, 2020-2021
- MS Exam Committee, Department of Biostatistics, University of Iowa, 2014-2015, 2018
- Co-chair, Faculty Search Committee, Department of Biostatistics, University of Iowa, 2016-2017
- Exploratory Committee for developing an Advanced Statistical Computing course, Department of Biostatistics, University of Iowa, 2015-2016
- Ph.D. qualifying exam committee, Department of Biostatistics, University of Kentucky, 2010-2012
- M.S. comprehensive exam committee, Department of Statistics, University of Kentucky, 2012-2013
- Degree program committee, Ph.D. in Epidemiology and Biostatistics, University of Kentucky, 2010-2012
- Ph.D. qualifying exam committee, Department of Statistics, University of Kentucky, 2011
- Picnic committee, Department of Statistics, University of Kentucky, 2009-2010
- Minutes committee, Department of Statistics, University of Kentucky 2009-2010
- President, Biostatistics Student Organization, University of Iowa, 2006-2007

UNIVERSITY SERVICE

- Curriculum committee, College of Public Health, University of Iowa, 2019-present
- Internal reviewer for NSF Career Award, University of Iowa, 2020
- Chair, research council, College of Public Health, University of Iowa, 2017-2018
- Research council, College of Public Health, University of Iowa, 2015-2017
- Computation and Informatics Committee, College of Public Health, University of Iowa, 2014-present
- Faculty judge, Research Week Poster Competition, College of Public Health, University of Iowa, 2016-2017
- Internal review committee to evaluate the Department of Community and Behavioral Health, College of Public Health, University of Iowa, 2015-2016
- Search Committee, Tenure-track position in Department of Biomedical Engineering, University of Iowa, 2014-2015
- Comprehensive exam committee for Interdisciplinary Ph.D. Program in Genetics, 2014, 2017
- Academic Affairs Committee, College of Public Health, University of Kentucky, 2011-2013
- Research, Evaluation, and Scholarship Committee, Center for Interprofessional Healthcare Education, Research, and Practice, University of Kentucky, 2012-2013
- Discussion moderator, University of Kentucky Health Care Common Reading Experience, 2011-2012
- Practice and Service Committee, University of Kentucky College of Public Health, 2009-2011
- Ph.D. qualifying exam committee, Center for Biomedical Engineering, University of Kentucky, 2010
- Faculty judge, Graduate Student Interdisciplinary Conference, University of Kentucky, April 2010

HONORS AND AWARDS

- Marion L. Huit Faculty Award (dedication to students), University of Iowa, 2021
- Faculty Research Award, University of Iowa College of Public Health, 2018
- College of Public Health Faculty Teaching Award, University of Iowa, 2015
- Milford E. Barnes Award (for outstanding graduate student in Biostatistics), University of Iowa, 2009
- Elected to Delta Omega (Public Health Honorary Society), 2009
- Graduate teaching award, Iowa State University, 2003
- National Merit Scholar, 1998-2002

Last updated: January 16, 2023