

Dr. Richard J. Charnigo, Jr.  
Curriculum Vitae – January 2025

## **Basic Information**

### ***Contact Information***

Mail: Multidisciplinary Science Building 325a  
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Lexington, Kentucky 40536-0082  
E-Mail: richard.chnigo@uky.edu  
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### ***Employment (University of Kentucky)***

Professor 2013-  
I hold this rank both in my primary appointment (Department of Biostatistics, College of Public Health) and in my secondary appointment (Dr. Bing Zhang Department of Statistics, College of Arts and Sciences). Some other information:  
Chair of Biostatistics (Spring and Summer 2017)  
University Research Professor (2014-2015 academic year)  
Veterans Affairs WOC Appointee (2014-2024)  
Associate Professor (2009-2013) and Assistant Professor (2003-2009)

### ***Graduate Faculty Status (University of Kentucky)***

Full Member  
Data Science 2020-  
Epidemiology and Biostatistics 2010-  
Statistics 2009-  
Preventive Medicine (Public Health) 2009-

### ***Education***

Ph.D. in Statistics 1999-2003  
*Case Western Reserve University*  
Dissertation: “Testing Homogeneity in Finite Mixtures and a Semi-Local Paradigm for Wavelet Denoising”  
Advisor: Jiayang Sun  
M.S. in Mathematics 1997-1999  
*Case Western Reserve University*  
B.S. in Mathematics 1994-1997  
*Case Western Reserve University*  
Minor fields: Statistics and Economics

## **Research Interests, Publications, and Presentations**

### ***Research Interests***

My main interests in statistical theory/methodology are nonparametric regression and mixture modeling. I have been also involved in many studies relating to cardiovascular health. Through students I have more recently become involved in research on Alzheimer’s disease.

## ***Publications***

1. Smith, Toni; Charnigo, Richard (2002). "On the Nonoptimality of the Compensation System in Major League Baseball." *Compensation and Working Conditions*: Volume 6, pp. 19 – 25.
2. Charnigo, Richard; Sun, Jiayang (2004). "Testing for Homogeneity in Mixture Distributions via the  $L^2$  Distance Between Competing Models." *Journal of the American Statistical Association*: Volume 99, pp. 488 – 498.
3. Steinhubl, Steven; Charnigo, Richard; Moliterno, David (2005). "Resistance to Antiplatelet Resistance: Is It Justified?" *Journal of the American College of Cardiology*: Volume 45, pp. 1757 – 1758.
4. Charnigo, Richard; Sun, Jiayang; Muzic, Raymond (2006). "A Semi-Local Paradigm for Wavelet Denoising." *IEEE Transactions on Image Processing*: Volume 15, pp. 666-677.
5. Steinhubl, Steven; Charnigo, Richard (2006). "Clopidogrel Pretreatment Prior to Percutaneous Coronary Intervention: When Enough Isn't Enough." *Journal of the American Medical Association*: Volume 295, pp. 1581-1582.
6. Das, Pranab; Moliterno, David; Charnigo, Richard; Mukherjee, Debabrata; Sneed, Darrell; Steinhubl, Steven; Booth, David; Ziada, Khaled (2006). "Impact of Drug-Eluting Stents on Outcomes of Patients with End-Stage Renal Disease Undergoing Percutaneous Coronary Revascularization." *Journal of Invasive Cardiology*: Volume 18, pp. 405-408.
7. Tackett, Julie; Charnigo, Richard; Caldwell, Glyn (2006). "Relating West Nile Virus Case Fatality Rates to Demographic and Surveillance Variables." *Public Health Reports*: Volume 121, pp. 666-673.
8. Chesnut, Lorie; Charnigo, Richard; LoBianco, Tony (2006). "Perinatal Periods of Risk: Mapping Feto-Infant Mortality in Kentucky." *Kentucky Epidemiologic News and Reports*: Volume 41, pp. 1-4.
9. John, Vijay; Dai, Hongying; Talati, Ajay; Charnigo, Richard; Neuman, Michael; Bada, Henrietta (2007). "Autonomic Alterations in Cocaine-Exposed Neonates following Orthostatic Stress." *Pediatric Research*: Volume 61, pp. 251-256.
10. Charnigo, Richard; Pilla, Ramani S. (2007). "Semiparametric Mixtures of Generalized Exponential Families." *Scandinavian Journal of Statistics*: Volume 34, pp. 535-551.
11. Charnigo, Richard; Francoeur, Mathieu; Mengüç, M. Pinar; Brock, Audrey; Leichter, Matthew; Srinivasan, Cidambi (2007). "Derivatives of Scattering Profiles: Tools for Nanoparticle Characterization." *Journal of the Optical Society of America A*: Volume 24, pp. 2578-2589.  
This was republished as the lead article in the "Structural Properties" section of *Virtual Journal of Nanoscale Science and Technology*: Volume 16, Issue 16, 15 Oct 2007.
12. Dai, Hongying; Charnigo, Richard (2008). "Omnibus Testing and Gene Filtration in Microarray Data Analysis." *Journal of Applied Statistics*: Volume 35, pp. 31-47.
13. Charnigo, Richard; Sun, Jiayang (2008). "Testing Homogeneity in Discrete Mixtures." *Journal of Statistical Planning and Inference*: Volume 138, pp. 1368-1388.

14. Steinhubl, Steven; Oh, Jennifer; Oestreich, Julie; Ferraris, Suellen; Charnigo, Richard; Akers, Wendell (2008). "Transitioning Patients from Cangrelor to Clopidogrel: Pharmacodynamic Evidence of a Competitive Interaction." *Thrombosis Research*: Volume 121, pp. 527-534.
15. Pamuklar, Zehra; Lee, Jin; Cheng, Hsin-Yuan; Pantcharam, Manikandan; Steinhubl, Steven; Morris, Andrew; Charnigo, Richard; Smyth, Susan (2008). "Individual Heterogeneity in Platelet Response to Lysophosphatidic Acid: Evidence for a Novel Inhibitory Pathway." *Arteriosclerosis, Thrombosis, and Vascular Biology*: Volume 28, pp. 555-561.
16. Lu, Hong; Rateri, Debra; Feldman, David; Charnigo, Richard; Fukamizu, Akiyoshi; Ishida, Junji; Oesterling, Elizabeth; Cassis, Lisa; Daugherty, Alan (2008). "Renin Inhibition Reduces Hypercholesterolemia-Induced Atherosclerosis in Mice." *Journal of Clinical Investigation*: Volume 118, pp. 984-993.
17. Simmons, Leigh Ann; Braun, Bonnie; Charnigo, Richard; Havens, Jennifer; Wright, David (2008). "Depression and Poverty among Rural Women: a Relationship of Social Causation or Social Selection?" *Journal of Rural Health*: Volume 24, pp. 292-298.
18. Dai, Hongying; Charnigo, Richard (2008). "Inferences in Contaminated Regression and Density Models." *Sankhya*: Volume 69, pp. 842-869.
19. Crosby, Richard; DiClemente, Ralph; Charnigo, Richard; Snow, Gregory; Troutman, Adewale (2009). "A Brief, Clinic-Based, Safer Sex Intervention for Heterosexual African American Men Newly Diagnosed with an STD: A Randomized Controlled Trial." *American Journal of Public Health*: Volume 99, Supplement 1, pp. 96-103.
20. Huddleston-Casas, Catherine; Charnigo, Richard; Simmons, Leigh Ann (2009). "Food Insecurity and Maternal Depression in Rural, Low-Income Families: A Longitudinal Investigation." *Public Health Nutrition*: Volume 12, pp. 1133-1140.
21. Sekerka, Leslie; Bagozzi, Richard; Charnigo, Richard (2009). "Facing Ethical Challenges in the Workplace: Conceptualizing and Measuring Professional Moral Courage." *Journal of Business Ethics*: Volume 89, pp. 565-579.
- A scale developed in this article has also been included in the PsycTESTS repository: Sekerka, L.E., Bagozzi, R.P., & Charnigo, R. (2011). Professional moral courage scale (revised form, 3/21/11). PsycTESTS. Washington, D.C.: American Psychological Association.
22. Oestreich, Julie; Holt, John; Dunn, Steven; Smyth, Susan; Campbell, Charles; Charnigo, Richard; Akers, Wendell; Steinhubl, Steven (2009). "Considerable Variability in Platelet Activity among Patients with Coronary Artery Disease in Response to an Increased Maintenance Dose of Clopidogrel." *Coronary Artery Disease*: Volume 20, pp. 207-213.
23. Bailey, Ursula; Lorch, Elizabeth; Milich, Richard; Charnigo, Richard (2009). "Developmental Changes in Attention and Comprehension among Children with Attention Deficit Hyperactivity Disorder." *Child Development*: Volume 80, pp. 1842-1855.
24. Cassis, Lisa; Gupte, Manisha; Thayer, Sarah; Zhang, Xuan; Charnigo, Richard; Howatt, Deborah; Rateri, Debra; Daugherty, Alan (2009). "Angiotensin II Infusion Promotes Abdominal Aortic Aneurysms Independent of Increased Blood Pressure in Hypercholesterolemic Mice." *American Journal of Physiology – Heart and Circulatory Physiology*: Volume 296, pp. H1660-H1665.

25. Syed, Mushabbar; Oshinski, John; Kitchen, Charles; Ali, Arshed; Charnigo, Richard; Quyyumi, Arshed (2009). "Variability of Carotid Artery Lumen and Wall Measurements on 3-Tesla MRI: Implications for Sample Size Calculation for Clinical Research." *International Journal of Cardiovascular Imaging*: Volume 25, pp. 581-589.
26. Lynam, Donald; Charnigo, Richard; Caspi, Avshalom; Moffitt, Terrie; Raine, Adrian; Loeber, Rolf; Stouthamer-Loeber, Magda (2009). "The Stability of Psychopathy Across Adolescence." *Development and Psychopathology*: Volume 21, pp. 1133-1153.
27. Police, Sara; Thatcher, Sean; Charnigo, Richard; Daugherty, Alan; Cassis, Lisa (2009). "Obesity Promotes Inflammation in Periaortic Adipose Tissue and Angiotensin II-Induced Abdominal Aortic Aneurysm Formation." *Arteriosclerosis, Thrombosis, and Vascular Biology*: Volume 29, pp. 1458-1464.
28. Rao, Sunil; Eikelboom, John; Steg, Gabriel; Lincoff, A. Michael; Weintraub, William; Bassand, Jean-Pierre; Rao, A. Koneti; Gibson, C. Michael; Petersen, John; Mehran, Roxana; Manoukian, Steven; Charnigo, Richard; Lee, Kerry; Moscucci, Mario; Harrington, Robert (2009). "Standardized Reporting of Bleeding Complications for Clinical Investigations in Acute Coronary Syndrome: A Proposal from the Academic Bleeding Consensus (ABC) Multidisciplinary Working Group." *American Heart Journal*: Volume 158, pp. 881-886.
29. Dosh, Kristofer; Berger, Peter; Marso, Steven; van Lente, Fredrick; Brennan, Danielle; Charnigo, Richard; Topol, Eric; Steinhubl, Steven (2009). "Association of Baseline Inflammatory Markers, Antiplatelet Therapy and Adverse Cardiac Events following Percutaneous Coronary Intervention: An Analysis from the CREDO Trial." *Circulation – Cardiovascular Interventions*: Volume 2, pp. 503-512.
30. Charnigo, Richard; Sun, Jiayang (2010). "Asymptotic Relationships between the D-Test and Likelihood Ratio-Type Tests for Homogeneity." *Statistica Sinica*: Volume 20, pp. 497-512.
31. Bhandari, Michelyn; Scutchfield, F. Douglas; Charnigo, Richard; Riddell, Martha; Mays, Glen (2010). "New Data, Same Story? Revisiting Studies on the Relationship of Local Public Health Systems Characteristics to Public Health Performance." *Journal of Public Health Management and Practice*: Volume 16, pp. 110-117.
32. Jordan, Carol; Pritchard, Adam; Duckett, Danielle; Charnigo, Richard (2010). "Criminal Offending among Respondents to Protective Orders: Crime Types and Patterns that Predict Victim Risk." *Violence Against Women*: Volume 16, pp. 1396-1411.
33. Dai, Hongying; Charnigo, Richard (2010). "Contaminated Normal Modeling with Application to Microarray Data Analysis." *Canadian Journal of Statistics*: Volume 38, pp. 315-332.
34. Charnigo, Richard; Crosby, Richard; Troutman, Adewale (2010). "Psychosocial Constructs Associated with Condom Use among High-Risk African American Men Newly Diagnosed with a Sexually Transmitted Disease." *Annals of Behavioral Medicine*: Volume 39, pp. 303-310.
35. Uchida, Haruhito; Kristo, Fjoralba; Rateri, Debra; Lu, Hong; Charnigo, Richard; Cassis, Lisa; Daugherty, Alan (2010). "Total Lymphocyte Deficiency Attenuates AngII-Induced Atherosclerosis But Not Abdominal Aortic Aneurysms in ApoE Deficient Mice." *Atherosclerosis*: Volume 211, pp. 399-403.

36. Moore, Gregory; Crosby, Richard; Young, April; Charnigo, Richard (2010). "Low Rates of Free Human Papillomavirus Vaccine Uptake Among Young Women." *Sexual Health*: Volume 7, pp. 287-290.
37. Reynolds, Eric; Grider, Debbie; Caldwell, Rhonda; Capillouto, Gilson; Vijaygopal, Pooja; Patwardhan, Abhijit; Charnigo, Richard (2010). "Swallow-Breath Interaction and Phase of Respiration with Swallow during Nonnutritive Suck among Low-Risk Preterm Infants." *American Journal of Perinatology*: Volume 27, pp. 831-840.
38. Charnigo, Richard; Chesnut, Lorie W.; LoBianco, Tony; Kirby, Russell S. (2010). "Thinking Outside the Curve, Part I: Modeling Birthweight Distribution." *Biomedcentral Pregnancy and Childbirth*: Volume 10, Article 37.
39. Charnigo, Richard; Chesnut, Lorie W.; LoBianco, Tony; Kirby, Russell S. (2010). "Thinking Outside the Curve, Part II: Modeling Fetal-Infant Mortality." *Biomedcentral Pregnancy and Childbirth*: Volume 10, Article 44.
40. Wang, Yuehui; Li, Jianing; Tang, Lihua; Wang, Yu; Charnigo, Richard; de Villiers, Willem; Eckhardt, Erik (2010). "T-Lymphocyte Responses to Intestinally Absorbed Antigens Can Contribute to Mesenteric Adipose Tissue Inflammation and Glucose Intolerance During High Fat Feeding." *Public Library of Science One*: Volume 5, Article 13951.
41. Meyer, Chip; Rahman, Shafiqur; Charnigo, Richard; Dwoskin, Linda; Crabbe, John; Bardo, Michael (2010). "Genetics of Novelty Seeking, Amphetamine Self-Administration, and Reinstatement Using Inbred Rats." *Genes, Brain, and Behavior*: Volume 9, pp. 790-798. PMID: PMC2965303.
42. Charnigo, Richard; Srinivasan, Cidambi (2011). "Stein's Phenomenon." *Philosophy of Statistics*, edited by Prasanta S. Bandyopadhyay and Malcolm Forster. Elsevier, Oxford.
43. Charnigo, Richard; Kryscio, Richard; Bardo, Michael; Lynam, Donald; Zimmerman, Rick (2011). "Joint Modeling of Longitudinal Data in Multiple Behavioral Change." *Evaluation and the Health Professions*: Volume 34, pp. 781-800.
44. Ziada, Khaled; Charnigo, Richard; Moliterno, David (2011). "Long-Term Follow-Up of Drug-Eluting Stents Placed in the Setting of ST-Elevation Myocardial Infarction." *Journal of the American College of Cardiology – Cardiovascular Interventions*: Volume 4, pp. 39-41.
45. Charnigo, Richard; Francoeur, Mathieu; Kenkel, Patrick; Mengüç, M. Pinar; Hall, Benjamin; Srinivasan, Cidambi (2011). "Estimating Quantitative Features of Nanoparticles Using Multiple Derivatives of Scattering Profiles." *Journal of Quantitative Spectroscopy and Radiative Transfer*: Volume 112, pp. 1369-1382.
46. Charnigo, Richard; Srinivasan, Cidambi (2011). "Estimating Multiple Derivatives Simultaneously: What Is Optimal?" *Journal of Biometrics and Biostatistics*: Volume 2, Article 102e.
47. Rateri, Debra; Moorleggen, Jessica; Balakrishnan, Anju; Owens, Philip; Howatt, Deborah; Charnigo, Richard; Cassis, Lisa; Daugherty, Alan (2011). "Endothelial Cell-Specific Deficiency of AngII Type 1a Receptors Attenuates AngII-Induced Ascending Aortic Aneurysms in LDL Receptor  $-/-$  Mice." *Circulation Research*: Volume 108, pp. 574-581.
48. Charnigo, Richard; Srinivasan, Cidambi (2011). "Self-Consistent Estimation of Mean Response Functions and their Derivatives." *Canadian Journal of Statistics*: Volume 39, pp. 280-299.

49. Marcum, Jennifer; Browning, Steven; Reed, Deborah; Charnigo, Richard (2011). "Determinants of Work Hours Among a Cohort of Male and Female Farmers 50 Years and Older in Kentucky and South Carolina (2002-2005)." *Journal of Agromedicine*: Volume 16, pp. 163-173.

50. Marcum, Jennifer; Browning, Steven; Reed, Deborah; Charnigo, Richard (2011). "Farmwork-Related Injury Among Older Farmers in Kentucky and South Carolina: A Cohort Study 2002-2005." *Journal of Agricultural Safety and Health*: Volume 17, pp. 259-273.

51. Elayi, C.S.; Whitbeck, M.G.; Charnigo, Richard; Shah, J.; Macaulay, T.E.; Morales, G.; Gurley, J.C.; Thal, S.; Ching, C.K.; Khaykin, Y.; Verma, A.; Barrett, C.; Bai, R.; Di Biase, L.; Patwardhan, A.; Moliterno, D.J.; Natale, A. (2011). "Is There An Association Between External Cardioversions and Mortality – Insights From the Affirm Study." *Circulation – Arrhythmia and Electrophysiology*: Volume 4, pp. 465-469.

This article was the subject of editorial comment in the same issue.

52. Marusich, Julie; Darna, Mahesh; Charnigo, Richard; Dvoskin, Linda; Bardo, Michael (2011). "A Multivariate Assessment of Individual Differences in Reward Seeking and Inhibition as Predictors of Amphetamine Self-Administration and Prefrontal Dopamine Function in Rats." *Clinical Psychopharmacology*: Volume 19, pp. 275-284.

53. Rateri, Debra; Howatt, Deborah; Moorleghen, Jessica; Charnigo, Richard; Cassis, Lisa; Daugherty, Alan (2011). "Prolonged Infusion of Angiotensin II Promotes Continued Expansion of Abdominal Aortic Aneurysm Associated with Adventitial Macrophage Recruitment." *American Journal of Physiology*: Volume 179, pp. 1542-1548.

54. Bush, Heather; Charnigo, Richard (2011). "Collecting Health Information: Disease Registry, Product Registry, or Neither?" *Journal of Biometrics and Biostatistics*: Volume 2, Article 103e.

55. Charnigo, Richard; Hall, Benjamin; Srinivasan, Cidambi (2011). "A Generalized  $C_p$  Criterion for Derivative Estimation." *Technometrics*: Volume 53, pp. 238-253.

56. Selim, Samy; Sunkara, Manjula; Salous, Abdel; Berdyshev, Evgeny; Bailey, Alison; Campbell, Charles; Charnigo, Richard; Morris, Andrew; Smyth, Susan (2011). "Plasma levels of sphingosine 1 phosphate are strongly correlated with hematocrit but variably restored by red blood cell transfusions." *Clinical Science*: Volume 121, pp. 565-572.

57. Deng, Wei; Charnigo, Richard; Dai, Hongying; Kirby, Russell S. (2011). "Characterizing components in a mixture model for birthweight distribution." *Journal of Biometrics and Biostatistics*: Volume 2, Article 118.

58. Wang, Shaoping; Subramanian, Venkateswaran; Lu, Hong; Howatt, Deborah; Moorleghen, Jessica; Charnigo, Richard; Daugherty, Alan (2012). "Deficiency of Receptor-associated Protein Attenuates Angiotensin II-induced Atherosclerosis in Hypercholesterolemic Mice." *Atherosclerosis*: Volume 220, pp. 375-380.

59. Migongo, Alice; Charnigo, Richard; Love, Margaret; Kryscio, Richard; Fleming, Steven; Pearce, Kevin (2012). "Factors Relating to Patient Visit Time with a Physician." *Medical Decision Making*: Volume 32, pp. 93-104.

60. Yiannikouris, Frederique; Karounos, Michael; Charnigo, Richard; English, Victoria; Rateri, Debra; Daugherty, Alan; Cassis, Lisa (2012). "Adipocyte-specific deficiency of angiotensinogen decreases plasma angiotensinogen concentration and systolic blood pressure in male mice." *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology*: Volume 302, pp. 244-251.

This article was the subject of editorial comment in the same issue.

61. Ingram, Richard; Scutchfield, F. Douglas; Charnigo, Richard; Riddell, Martha (2012). "Local Public Health System Performance and Community Health Outcomes." *American Journal of Preventive Medicine*: Volume 42, pp. 214-220.

62. Lu, Hong; Balakrishnan, Anju; Howatt, Deborah; Wu, Congqing; Charnigo, Richard; Liao, Gene; Cassis, Lisa; Daugherty, Alan (2012). "Comparative effects of different modes of renin angiotensin system inhibition on hypercholesterolaemia-induced atherosclerosis." *British Journal of Pharmacology*: Volume 165, pp. 2000-2008.

63. Wallace, Eric; Abdel-Latif, Ahmed; Charnigo, Richard; Moliterno, David; Brodie, Bruce; Matnani, Rahul; Ziada, Khaled (2012). "Meta-Analysis of Long-Term Outcomes for Drug-Eluting Stents versus Bare-Metal Stents in Primary Percutaneous Coronary Interventions for ST-Segment Elevation Myocardial Infarction." *American Journal of Cardiology*: Volume 109, pp. 932-940.

64. Charnigo, Richard; Francoeur, Mathieu; Kenkel, Patrick; Mengüç, M. Pinar; Hall, Benjamin; Srinivasan, Cidambi (2012). "Credible Intervals for Nanoparticle Characteristics." *Journal of Quantitative Spectroscopy and Radiative Transfer*: Volume 113, pp. 182-193.

65. Jordan, Carol; Clark, James; Pritchard, Adam; Charnigo, Richard (2012). "Lethal and Other Serious Assaults: Disentangling Gender and Context." *Crime and Delinquency*: Volume 58, pp. 425-455.

This article was recognized in *Psychology Progress*, which alerts the scientific community to breaking journal articles considered to represent the best in Psychology research.

66. Sekerka, Leslie; Godwin, Lindsey; Charnigo, Richard (2012). "Use of Balanced Experiential Inquiry to Build Ethical Strength in the Workplace." *Journal of Management Development*: Volume 31, pp. 275-286.

67. Crosby, Richard; Charnigo, Richard; Shrier, Lydia (2012). "Condom Use Errors and Problems Among Teens Attending Clinics: Better or Worse Than Young Adults ?" *Journal of Contraception*: Volume 2012, pp. 17-22.

68. Adams, Zachary; Kaiser, Alison; Lynam, Donald; Charnigo, Richard; Milich, Richard (2012). "Drinking Motives as Mediators of the Impulsivity - Substance Use Relation: Unique Pathways for Negative Urgency, Lack of Premeditation, and Sensation Seeking." *Addictive Behaviors*: Volume 37, pp. 848-855.

69. Zhang, Xuan; Rateri, Debra; Ali, Kamilah; Thatcher, Sean; Bruemmer, Dennis; Charnigo, Richard; Daugherty, Alan; Cassis, Lisa (2012). "Transient Exposure of Neonatal Female Mice to Testosterone Abrogates the Sexual Dimorphism of Abdominal Aortic Aneurysms." *Circulation Research*: Volume 110, pp. 73-85.

70. Fardo, David; Charnigo, Richard; Epstein, Michael (2012). "Families or Unrelated: The Evolving Debate in Genetic Association Studies." *Journal of Biometrics and Biostatistics*: Volume 3, Article 108e.

71. Eisenlohr-Moul, Tory; Walsh, Erin; Charnigo, Richard; Lynam, Donald; Baer, Ruth (2012). "The What and the How of Dispositional Mindfulness: Using Interactions Among Subscales of the Five-Facet Mindfulness Questionnaire to Understand Its Relation to Substance Use." *Assessment*: Volume 19, pp. 276-286.
72. Kaiser, Alison; Milich, Richard; Lynam, Donald; Charnigo, Richard (2012). "Negative Urgency, Distress Tolerance, and Substance Abuse: Examining the Role of Characteristic Responding to Negative Affect." *Addictive Behaviors*: Volume 37, pp. 1075-1083.
73. Crosby, Richard; Shrier, Lydia; Charnigo, Richard; Sanders, Stephanie; Graham, Cynthia; Milhausen, Robin; Yarber, William (2012). "A Prospective Event-Level Analysis of Condom Use Experiences Following STI Testing Among Patients in Three US Cities." *Sexually Transmitted Diseases*: Volume 39, pp. 756-760.
74. Leung, Steve; Elayi, Claude; Charnigo, Richard; Syed, Mushabbar (2012). "Clinical Significance of Right Ventricular Dysfunction in Left Ventricular Non-Compaction Cardiomyopathy Assessed by Magnetic Resonance Imaging." *International Journal of Cardiovascular Imaging*: Volume 28, pp. 1123-1131.
75. Zheng, Yanbing; Charnigo, Richard (2012). "On Selecting Spatial-Temporal Autologistic Regression Models for Binary Lattice Data." *Journal of Biometrics and Biostatistics*: Volume 3, Article 112e.
76. Crosby, Richard; Charnigo, Richard; Weathers, Chandra; Caliendo, Angela; Shrier, Lydia (2012). "Condom Effectiveness against Non-Viral Sexually Transmitted Infections: A Prospective Study Using Electronic Daily Diaries." *Sexually Transmitted Infections*: Volume 88, pp. 484-489.
77. Walsh, Sabrina; Charnigo, Richard (2012). "The National Violent Death Reporting System, County Level Health Status Data and Preventing Suicide." *Suicidology Online*: Volume 3, pp. 92-101.
78. Carter, L.; Lewis, K.; Wilkerson, D.; Tobia, C.; Ngo, S.; Tenlep, P.; Garcia-Cazarin, M.; Wolff, G.; Andrade, F.; Charnigo, Richard; Esser, K.; Egan, J.; de Cabo, R.; Pearson, K. (2012). "Exercise during Pregnancy Improves Glucose Homeostasis in Adult Offspring." *American Journal of Physiology - Endocrinology and Metabolism*: Volume 303, pp. 1061-1068.
79. Yiannikouris, Frederique; Gupte, Manisha; Putnam, Kelly; Thatcher, Sean; Charnigo, Richard; Rateri, Debra; Daugherty, Alan; Cassis, Lisa (2012). "Adipocyte Deficiency of Angiotensinogen Prevents Obesity-Induced Hypertension in Male Mice." *Hypertension*: Volume 60, pp. 1524-1530.  
This article was the subject of editorial comment.
80. Dai, Hongying; Charnigo, Richard; Srivastava, Tarak; Talebizadeh, Zohreh; Ye, Shui Qing (2012). "Integrating P-Values for Genetic and Genomic Data Analysis." *Journal of Biometrics and Biostatistics*: Volume 3, Article 117e.
81. Breheny, Patrick; Li, Yinglei; Charnigo, Richard (2012). "Statistical Challenges and Opportunities in Copy Number Variant Association Studies." *Journal of Biometrics and Biostatistics*: Volume 3, Article 118e.
82. Lu, Hong; Wu, Congqing; Howatt, Deborah; Balakrishnan, Anju; Charnigo, Richard; Cassis, Lisa; Daugherty, Alan (2013). "Differential Effects of Dietary Sodium Concentrations on Blood Pressure and Atherosclerosis in Hypercholesterolemic Mice." *Journal of Nutritional Biochemistry*: Volume 24, pp. 49-53.



83. Charnigo, Richard; Fan, Qian; Bittel, Douglas; Dai, Hongying (2013). "Testing Unilateral versus Bilateral Normal Contamination." *Statistics and Probability Letters*: Volume 83, pp. 163-167.
84. Charnigo, Richard; Noar, Seth; Garnett, Chris; Crosby, Richard; Palmgreen, Philip; Zimmerman, Rick (2013). "Sensation Seeking and Impulsivity: Combined Associations with Risky Sexual Behavior in a Large Sample of Young Adults." *Journal of Sex Research*: Volume 50, pp. 480-488.
85. Crosby, Richard; Shrier, Lydia; Charnigo, Richard; Sanders, Stephanie; Graham, Cynthia; Milhausen, Robin; Yarber, William (2013). "Negative Perceptions About Condom Use in a Clinic Population: Comparisons by Gender, Race, and Age." *International Journal of STD and AIDS*: Volume 24, pp. 100-105.
86. Crosby, Richard; Charnigo, Richard (2013). "A Comparison of Condom Use Perceptions and Behaviors between Circumcised and Intact Men Attending STD Clinics in the United States." *International Journal of STD and AIDS*: Volume 24, pp. 175-178.
87. Whitbeck, M.; Charnigo, Richard; Khairy, P.; Ziada, K.; Bailey, A.; Zegarra, M.; Shah, J.; Morales, G.; Macaulay, T.; Sorrell, V.; Campbell, C.; Gurley, J.; Anaya, P.; Nasr, H.; Bai, R.; DiBiase, L.; Booth, D.; Jondeau, G.; Natale, A.; Roy, D.; Smyth, S.; Moliterno, D.; Elayi, C. (2013). "Increased Mortality among Patients Taking Digoxin - Analysis from the AFFIRM Study." *European Heart Journal*: Volume 34, pp. 1481-1488.
- This article was the subject of editorial comment.
88. Gross, A. Kendall; Dunn, Steven; Feola, David; Martin, Craig; Charnigo, Richard; Li, Zhenyu; Abdel-Latif, Ahmed; Smyth, Susan (2013). "Clopidogrel Treatment and the Incidence and Severity of Community Acquired Pneumonia in a Cohort Study and Meta-Analysis of Antiplatelet Therapy in Pneumonia and Critical Illness." *Journal of Thrombosis and Thrombolysis*: Volume 35, pp. 147-154.
89. Dunn, Steven; Steinhubl, Steven; Bauer, Deborah; Charnigo, Richard; Berger, Peter; Topol, Eric (2013). "Impact of Proton Pump Inhibitor Therapy on the Efficacy of Clopidogrel in the CAPRIE and CREDO Trials." *Journal of the American Heart Association*: Volume 2, Article 4564.
90. Charnigo, Richard; Zhou, Feng; Dai, Hongying (2013). "Contaminated Chi-Square Modeling and Large-Scale ANOVA Testing." *Journal of Biometrics and Biostatistics*: Volume 4, Article 157.
91. Dai, Hongying; Charnigo, Richard; Becker, Mara; Leeder, Steve; Motsinger-Reif, Alison (2013). "Epistasis Enriched Network and Risk Score Modeling of Continuous Multifactor Dimensionality Reduction." *BioData Mining*: Volume 6, Article 1.
92. Daugherty, Alan; Rateri, Debra; Howatt, Deborah; Charnigo, Richard; Cassis, Lisa (2013). "PD123319 Augments Angiotensin II-Induced Abdominal Aortic Aneurysms through an AT2 Receptor-Independent Mechanism." *Public Library of Science One*: Volume 8, Article 61849.
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A related commentary was published in the same issue.

#### Notes:

- a. Collective/corporate authors have been omitted from entries above.
- b. Conference papers and abstracts have not been listed. (Item #195 is not a conference paper.)
- c. Some of my views on human subjects research and behavioural interventions have changed over time. Moreover, my co-authorship on a paper which describes human behaviours should not be taken to imply my approval of those behaviours.
- d. Support of my research by a funding agency does not imply that I agree with all views or activities of the funding agency.
- e. Publication of my work by a journal does not imply that I agree with all views or activities of the journal or publisher.

### ***Presentations***

- “Flourishing or Floundering? Relief Pitching in Major League Baseball”
  1. Case Western Reserve University: Statistics Department colloquium (November 1999)
  2. Case Western Reserve University: “Statistics in American Daily Life” (March 2000)
  3. American Statistical Association: Cleveland chapter meeting (June 2000)
  4. Society for American Baseball Research: Cleveland chapter meeting (July 2000)
- “Testing for Homogeneity in Mixture Distributions via the  $L^2$  Distance Between Competing Models”
  1. Case Western Reserve University: Workshop on Developments and Challenges in Mixture Models (June 2002 – contributed poster)
  2. Purdue University: International Symposium on Statistics (June 2003 – invited)
  3. American Statistical Association: Joint Statistical Meetings (August 2003 – contributed)
- “A Semi-Local Paradigm for Wavelet Denoising”
  1. University of Kentucky: Statistics Department colloquium (December 2002 – invited)
  2. Johns Hopkins University: Biostatistics Department colloquium (January 2003 – invited)
  3. Iowa State University: Statistics Department colloquium (January 2003 – invited)
  4. International Biometric Society: Spring meeting of the Eastern North American Region (April 2003 – contributed)
- “Testing for Homogeneity in Discrete Mixtures”
 

American Statistical Association: Joint Statistical Meetings (August 2004 – contributed)
- “On a Flexible Information Criterion for Order Selection in Semiparametric Mixture Models”
  1. University of South Alabama: Mathematics and Statistics Department colloquium (November 2004 – invited)
  2. International Biometric Society: Spring meeting of the Eastern North American Region (March 2005 – contributed)

3. Interface and Classification Society of North America: Joint annual meeting (June 2005 – invited)
4. American Statistical Association: Joint Statistical Meetings (August 2005 – invited)
- “Local Analytic Curve Estimation”
  1. American Statistical Association: Joint Statistical Meetings (August 2006 – contributed)
  2. Case Western Reserve University: Statistics Department colloquium (October 2007 – invited)
- “Thinking Outside the Curve: Revisiting Birthweight Distribution”
  1. American Statistical Association: Kentucky chapter meeting (October 2006 – invited)
  2. American Statistical Association: Joint Statistical Meetings (August 2007 – contributed)
  3. Indiana University: Statistics Department colloquium (April 2008 – invited)
  4. University of Cincinnati: Division of Epidemiology and Biostatistics colloquium (May 2008 – invited)
- “Inferences in Contaminated Density Models with Applications to Microarray Data Analysis”
  1. University of Alabama at Birmingham: Statistical Genetics Section colloquium (March 2007 – invited)
- “A Generalized CP Criterion for Evaluating Derivative Estimates”
  1. American Statistical Association: Joint Statistical Meetings (August 2008 – contributed)
- “On Estimating Quantitative Features of Nanoparticles”
  1. International Chinese Statistical Association: Applied Statistics Symposium (June 2009 – invited)
- “Nonparametric Derivative Estimation and Posterior Probabilities for Nanoparticle Characteristics”
  1. American Statistical Association: Joint Statistical Meetings (August 2009 – contributed)
  2. Ohio State University: Conference on Nonparametric Statistics and Statistical Learning (May 2010 – contributed)
  3. International Chinese Statistical Association: Applied Statistics Symposium (June 2010 – contributed)
- “The Doubly Contaminated Normal Model and Its Application to Microarray Data Analysis”
  1. American Statistical Association: Joint Statistical Meetings (August 2011 – contributed)
  2. Cincinnati Children’s Hospital: Division of Biostatistics and Epidemiology seminar (September 2011 - invited)
- “Inference for the Bilaterally Contaminated Normal Model with Nuisance Parameter”
  1. American Statistical Association: Joint Statistical Meetings (July 2012 – contributed)
- “Risk Score Modeling of Multiple Gene to Gene Interactions using Aggregated-Multifactor Dimensionality Reduction”
  1. Pacific Institute for the Mathematical Sciences: High Dimensional Data Analysis Workshop (May 2013 – invited)
- “Contaminated Chi-Square Modeling and Large-Scale ANOVA Testing”
  1. OMICS Publishing Group: Biometrics 2013 (June 2013 – invited)
- “Derivatives of Raman Spectra for Breast Cancer Diagnosis”
  1. American Statistical Association: Joint Statistical Meetings (August 2013 – contributed)
- “A Multivariate Generalized  $C_p$  and Surface Estimation”
  1. University of Louisville: Bioinformatics and Biostatistics Department colloquium (November 2013 – invited)
- “Hypothesis Testing in Normal Admixture Models to Detect Heterogeneous Genetic Signals”
  1. OMICS Publishing Group: Biostatistics 2014 (October 2014 – invited)
  2. American Statistical Association: Kentucky Chapter Meeting (October 2014 – contributed)
- “Nonparametric and Semiparametric Estimation in Multiple Covariates”
  1. International Biometric Society: Spring meeting of the Eastern North American Region (March 2015 – contributed)

2. American Statistical Association: Joint Statistical Meetings (August 2015 – contributed)
  - “Altered Singular Bayesian Information Criteria for Bivariate Mixture Models”
    1. International Biometric Society: Spring meeting of the Eastern North American Region (March 2016 – contributed)
  - “Inference for a Nonparametric Model without Nonparametric Estimation”
    1. American Statistical Association: Joint Statistical Meetings (August 2017 – contributed)

Notes:

- a. I was scheduled to deliver a presentation at the spring meeting of the Eastern North American Region (ENAR) in March 2020. However, the conference was converted to a virtual format because of the COVID-19 outbreak, and I chose not to participate in the virtual format.
- b. All of these presentations were delivered by me personally. Almost all had co-authors, which I do not list here.

### **Externally funded projects with ongoing salary support**

1. 5R01DA053070 Turner, Bardo, and Ortinski (MPI) 3/15/21 – 12/31/25  
 FUNCTIONAL AND GENOMIC SIGNATURES OF ESCALATED FENTANYL USE  
 NIH

This proposal aims to understand how individual variability for non-drug rewards relates to escalation of fentanyl-seeking and define the neurocircuitry and genomic contributors to these relationships. Role: Co-Investigator.

### **Externally funded projects on which I was principal investigator**

6. W911NF-17-1-0040 Charnigo (PI) 12/14/16 – 11/13/21, total award ~\$497 K  
 Army Research Office

ALMOST-SMOOTH NONPARAMETRIC REGRESSION AND PATTERN RECOGNITION

The proposed project entails creating new statistical methodology and providing corresponding mathematical justification, for nonparametric estimation of “almost smooth” mean response functions and related pattern recognition. Role: Principal Investigator

5. W911NF-12-1-0422 Mod 1 Charnigo (PI) 8/15/12 - 7/31/13, total award \$50 K  
 ARO/Probability and Statistics

ADVANCES IN MULTIVARIATE NONPARAMETRIC REGRESSION WITH APPLICATION TO NANOSCALE-GAP THERMOPHOTOVOLTAIC POWER CONVERSION

This project will develop new statistical methods and theory for multivariate nonparametric regression, along with a new analytic model for near-field emission and absorption by a single nanoparticle on a surface. These developments will be used to establish a framework for characterizing nanoparticles nonintrusively and in real time on properties that influence the near-field thermal spectrum in a nanoscale-gap thermophotovoltaic apparatus. Role: Principal Investigator

4. DMS-0706857 Charnigo (PI) 8/01/07 – 7/31/11, total award ~\$250 K  
 NSF/DMS

ESTIMATION OF ANALYTIC SURFACES WITH APPLICATIONS TO NANOPARTICLE CHARACTERIZATION VIA SURFACE WAVES

This project advances the statistical field of functional data analysis by rigorously developing a new compound estimation paradigm for simultaneously estimating a mean response and several of its derivatives from noisy data. Role: Principal Investigator

3. Charnigo (PI) 6/01/07 – 6/30/07, total award \$2.5 K  
 Naval Postgraduate School  
 PROFESSIONAL MORAL COURAGE AND MORAL DECISION MAKING  
 This project involves the analysis of organizational behavior data pertaining to the Ethics in Action Research and Education program, with a particular focus on professional moral courage. Role: Principal Investigator

2. Charnigo (PI) 7/01/06 – 6/30/07, total award \$8.0 K  
 Naval Postgraduate School  
 CONTRACT FOR STATISTICAL CONSULTING  
 This project involves the analysis of organizational behavior data pertaining to the Ethics in Action Research and Education program, with a particular focus on curiosity and desired moral approbation.  
 Role: Principal Investigator

1. Charnigo (PI) 3/01/05 – 8/31/05, total award ~\$5.7 K  
 Accumetrics, Inc.  
 CONTRACT FOR STATISTICAL CONSULTING  
 This project involved the analysis of clinical data to ascertain variability in response to clopidogrel.  
 Role: Principal Investigator

Note: The amounts actually spent from the grants were sometimes less than the amounts awarded.

### **Other externally funded projects on which I participated**

38. R01DA043519 Bada and Leggas (MPI) 5/1/17 – 2/28/23  
 NIH  
 NON-OPIATE TREATMENT AFTER PRENATAL OPIATE EXPOSURE TO PREVENT POSTNATAL INJURY TO THE YOUNG BRAIN (NO-POPPY)  
 The objective of this application is to evaluate the effectiveness of clonidine, an  $\alpha_2$  adrenergic receptor agonist, as a treatment for neonates with neonatal abstinence syndrome, in a randomized clinical trial. Role: Co-Investigator.

37. R01DK112136 Schoenberg (PI) 8/1/17 – 7/31/22  
 NIH  
 COMMUNITY TO CLINIC NAVIGATION TO IMPROVE DIABETES OUTCOMES  
 Since diabetes has reached epidemic proportions in the US, especially among low income and rural residents, we aim to test a refine and promising program called “Community to Clinic Navigation” (CCN) that combines diabetes self-management education with tailored patient navigation to improve clinical care. Role: Co-Investigator.

36. R01HL134731 Webb and de Beer (MPI) 1/1/17 – 12/31/20  
 NIH  
 SERUM AMYLOID A, INFLAMMASOME ACTIVATION, AND ABDOMINAL AORTIC ANEURYSMS  
 This project investigates the role of serum amyloid A (SAA) in the initiation and progression of abdominal aortic aneurysms (AAA) and tests the hypothesis that systemic SAA promotes AAA by activating the NLRP3 inflammasome in macrophages that have been recruited to an established AAA. Role: Co-Investigator.

35. UL1TR001998 Kern (PI) 8/15/16 - 5/31/20  
 NCATS  
 KENTUCKY CENTER FOR CLINICAL AND TRANSLATIONAL SCIENCE  
 The University of Kentucky Center for Clinical and Translational Science is strategically positioned in Central Appalachia to catalyze efforts to connect the populace of this medically underserved region, with significant health disparities, to the national CTSA network. Role: Member of BERD core function.
34. R21AR070620 Thrailkill (PI) 7/1/16 – 6/30/18  
 NIH  
 EFFECTS OF SODIUM-DEPENDENT GLUCOSE CO-TRANSPORTER 2 INHIBITION ON BONE  
 The objective of this proposal is to utilize several relevant rodent models to investigate potential mechanisms contributing to the adverse effects of SGLT2-inhibitor therapy on the skeleton. Role: Co-Investigator.
33. R01HL131925 Zhou (PI) 4/1/16 – 2/29/20  
 NIH  
 ROLE OF IKK $\beta$  IN OBESITY AND ATHEROSCLEROSIS  
 This is an R01 application intended to test the hypothesis that IKK $\beta$  is a critical regulator of adipogenesis and atherogenesis, and that overnutrition-induced activation of IKK $\beta$  promotes adipocyte differentiation, adipocyte inflammation and atherosclerosis. Role: Co-Investigator
32. Tannock and Gong (MPI) 2/23/16 – 11/30/17  
 Washington University  
 EATING AT THE RIGHT TIME – A NOVEL APPROACH TO CORRECT NON-DIPPING BLOOD PRESSURE  
 This project will test whether nighttime eating increases the prevalence of non-dipping BP, and daytime restricted food intake will restore normal BP dipping at night. Role: Co-Investigator
31. R01HL128592 Vandsburger (PI) 8/01/15 – 4/30/20  
 NIH  
 NOVEL MRI TECHNIQUES FOR IMAGING CARDIAC FIBROSIS TO IMPROVE CLINICAL PRACTICE IN PATIENTS WITH RENAL FAILURE  
 We propose to fully validate a novel gadolinium free cardiac magnetic resonance imaging method, called 2-point bSSFP, for imaging of focal and diffuse fibrosis, and to utilize this novel and safe method to identify meaningful biomarkers of cardiac fibrosis in chronic kidney disease patients. Role: Co-Investigator
30. R01HL123358 Zhou (PI) 8/01/15 – 5/31/19  
 NIH  
 A NOVEL MECHANISM FOR ART-ASSOCIATED DYSLIPIDEMIA AND ATHEROSCLEROSIS  
 The goal of this project is to investigate a novel mechanism linking antiretroviral (ARV) drugs with dyslipidemia and cardiovascular disease (CVD). Role: Co-Investigator
29. R01HL120507 Smyth and Morris (MPI) 4/01/15 – 3/31/19  
 NIH  
 LIPID PHOSPHATE PHOSPHATASE 3 AS A NOVEL ATHEROSCLEROSIS SUPPRESSOR  
 Completion of these studies promises to provide valuable insight into the mechanism(s) by which extracellular bioactive lipid mediators influence the development of ischemic heart disease and provide novel and innovative targets to predict, prevent and treat coronary artery disease. Role: Statistician

28. I01 CX000975 Tannock (PI) 4/1/14 – 3/31/18  
VA-ORD  
THE ASSOCIATION OF SAA WITH APOB LIPOPROTEINS AFFECTS CARDIOVASCULAR RISK  
The central hypothesis of this grant is that the shift of SAA from HDL to apoB-containing lipoproteins in insulin resistant conditions such as Metabolic syndrome and diabetes contributes to the increased atherosclerosis and cardiovascular disease observed in these populations. Role: Statistician.
27. I01 CX000773 Webb (PI) 1/1/14–12/31/17  
VA-ORD  
HDL REMODELING IN THE METABOLIC SYNDROME  
The central hypothesis of this proposal is that TG enrichment of HDL in MetS predisposes the particle to remodeling by intravascular factors and impedes selective lipid uptake by SR-BI. Consequently, TG-enriched HDL in MetS is more susceptible to rapid clearance and less capable of supporting reverse cholesterol transport. Role: Statistician.
26. R01ES023470 Zhou (PI) 9/26/13 - 6/30/18  
NIH/NIEHS  
ENDOCRINE DISRUPTOR MEDIATED ACTIVATION OF PXR CAUSES DYSLIPIDEMIA  
The goal of this project is to investigate a novel mechanism linking endocrine disrupting chemical (EDC) exposure and hyperlipidemia. Role: Co-Investigator
25. R01DK100892 Graf (PI) 9/20/13 - 8/31/18  
NIH  
THE ROLE OF HEPATIC INSULIN RESISTANCE ON SR-BI DEPENDENT HDL CHOLESTEROL UPTAKE AND METABOLISM  
The overall objective of this proposal is to examine the extent to which impaired insulin signaling alters HDL-mediated reverse cholesterol transport (RCT). Role: Co-Investigator
24. ISSBRIL0171 Smyth (PI) 4/23/13 – 4/12/17  
AstraZeneca Pharmaceuticals  
TARGETING PLATELET ACTIVATION, PLATELET-LEUKOCYTE AGGREGATES, AND ACUTE LUNG INJURY IN PNEUMONIA WITH TICAGRELOR  
This human clinical study will assess the effects of Brilinta on platelet function among patients with pneumonia. Role: Co-Investigator
23. R01HL111040 Bruemmer (PI) 9/27/12 - 6/30/16  
NIH/NHLBI  
EPIGENETIC REGULATION OF INFLAMMATORY GENE EXPRESSION BY TELOMERASE  
This application will investigate novel mechanisms that control the activation of inflammation during atherosclerosis formation. The results of these studies may ultimately characterize novel pathways contributing to vascular diseases and lead to new therapeutic opportunities. Role: Co-Investigator
22. DP5OD012132 Fornwalt (PI) 9/25/12 - 8/31/18  
NIH/Office of the Director  
EXPLORING THE ROLE OF DYSSYNCHRONY IN PEDIATRIC HEART DISEASE WITH MRI  
The long-term goal of this research program is to address the problem of pediatric heart failure by adapting a relatively new, highly successful therapy for adult heart failure called cardiac resynchronization therapy into a treatment option to improve the health of children with heart failure. Role: Co-Investigator



21. Dearinger (PI) 7/1/12 - 12/31/13  
 Kentucky Public Health Association  
 ASSESSING AND IMPROVING CULTURAL AND LINGUISTIC COMPETENCY IN LOCAL HEALTH DEPARTMENTS  
 This project will analyze data from the National Association of County and City Health Officials 2010 Profile of Local Health Departments, the Culturally and Linguistically Appropriate Services instrument, and the United States Census. Role: Co-Investigator
20. R305A120171-14 Lorch (PI) 3/1/12 – 2/28/17  
 Institute of Education Sciences  
 A NARRATIVE COMPREHENSION INTERVENTION FOR ELEMENTARY SCHOOL CHILDREN AT-RISK FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER  
 Children with ADHD often fall behind their comparison peers in narrative comprehension ability due to deficits in story domains that are important for comprehension; the purpose of the proposed project is to develop a supplemental afterschool intervention for 2nd and 3rd grade children at-risk for ADHD.  
 Role: Co-Investigator
19. R01MH092226 Crosby (PI) 8/1/11 - 5/31/16  
 NIH/NIMH  
 A CLINIC-BASED, SAFER SEX PROGRAM FOR YOUNG AFRICAN AMERICAN MEN WHO HAVE SEX WITH MEN  
 The proposed efficacy trial will test a brief, clinic-based HIV/STD prevention program adapted specifically for young African American MSM. This program is based on a CDC-classified Evidence-Based Intervention known as Focus on the Future. The trial is designed with three follow-up assessments and uses biomarker outcomes as well as a novel method of collecting self-reported outcomes. Role: Co-Investigator
18. UL1TR000117 Kern (PI) 6/1/11 – 9/30/16  
 NIH  
 KENTUCKY CENTER FOR CLINICAL AND TRANSLATIONAL SCIENCE  
 The Kentucky Center for Clinical and Translational Science (CCTS) provides infrastructure, services, and programs to support clinical and translational investigators, to foster collaborations between basic and clinical scientists to facilitate research translation, to train the clinical and translational workforce of the future, and to enhance community engagement pathways to confront chronic health issues in rural Appalachia. Role: Program Faculty, Biostatistics
17. ISSCRES0043 Smyth (PI) 5/2/11 - 4/30/14  
 AstraZeneca Pharmaceuticals  
 EARLY USE OF ROSUVASTATIN IN ACUTE CORONARY SYNDROMES: TARGETING PLATELET-LEUKOCYTE INTERACTIONS  
 This human clinical study will assess the effects of Crestor, a lipid lowering therapy, on platelet function and inflammatory biomarkers among patients with acute coronary syndromes. Role: Co-Investigator
16. R21HD068844 Swanson (PI) 5/1/11 - 4/30/15  
 NIH/CHHD  
 COMBATING DISPARITIES IN PRODUCE CONSUMPTION: AN APPALACHIAN FARM TO SCHOOL INTERVENTION  
 Located in rural Appalachian Kentucky, a region with low fruit and vegetable intake and high rates of diet related diseases, the proposed project examines the feasibility of using a farm to school program, which provides locally-raised produce to the school cafeteria, as a health intervention. Role: Co-Investigator

15. Dearinger (PI) 3/01/10 – 2/29/12  
 KY Public Health Association  
 COMMUNITY OUTREACH AND CHANGE FOR DIABETES MANAGEMENT  
 The Kentucky Public Health Research Network will implement a systems-based quality improvement (QI) program, collect pre and post intervention data on the QI process, and analyze data for presentation at regional and national public health meetings. Role: Statistical Consultant
14. R01HL091924 Bruemmer (PI) 9/01/09 – 8/31/11  
 NIH/AICS  
 TELOMERASE IN INFLAMMATION AND ATHEROSCLEROSIS  
 This study will test the hypothesis that telomerase promotes inflammatory gene expression in macrophages through epigenetic chromatin modifications and contributes to the development of atherosclerosis.  
 Role: Co-Investigator
13. R01MH083621 Crosby (PI) 9/30/08 – 5/31/14  
 NIH/NIMH  
 A BRIEF, CLINIC-BASED HIV PREVENTION PROGRAM FOR AFRICAN AMERICAN TEEN MALES  
 This study will test the efficacy of a brief, clinic-based intervention to reduce STI incidence among African American teens (15 to 20 years old). Role: Co-Investigator
12. R01DA025605 Lile (PI) 9/15/08 – 7/31/14  
 NIH/NIDA  
 GABA DRUGS FOR CANNABIS-USE DISORDERS: INITIAL MECHANISTIC STUDIES IN HUMANS  
 Currently there is no effective pharmacological treatment for cannabis-use disorders. The experiments proposed here represent the initial step of evaluating GABAergic drugs as potential pharmacotherapies.  
 Role: Statistician
11. P20GM103527 Cassis (PI) 9/08/08 – 7/31/18  
 NIH/NCRR  
 CENTER OF RESEARCH IN OBESITY AND CARDIOVASCULAR DISEASE  
 The objective of this Center is to identify mechanisms linking the epidemic of obesity to the high incidence of cardiovascular diseases in the obese population and to develop promising junior project investigators.  
 Role: Administrative core
10. R01AA016166 Smith (PI) 3/10/08 – 2/28/13  
 NIH/NIAAA  
 DEVELOPMENTAL TRANSITIONS AND RISK FOR ALCOHOL USE  
 This research will help us understand how the transition into adolescence can leave some children at risk for beginning to engage in risky behaviors. It will highlight the importance of emotion for some adolescents' risky behaviors, and it will suggest mood-based interventions that might reduce risk.  
 Role: Statistical Consultant
9. R21 DA023049 Martin (PI) 5/10/07 – 6/30/11  
 NIH/NIDA  
 MODAFINIL AND SMOKING CESSATION  
 This project is a Phase II clinical trial exploring the efficacy of modafinil as a smoking cessation aid. If shown to be effective, modafinil could be added to the current pharmacotherapies for smoking cessation and may have particular benefit for female smokers for whom weight gain is a significant deterrent to smoking cessation. Role: Co-Investigator

8. Scutchfield (PI) 3/01/07 – 2/29/08  
National Network of Public Health Institutes  
NPHPSP DATA MINING  
This project seeks to identify factors that predict whether a public health department will excel in each of the ten essential public health services. Role: Statistical Consultant
7. K23HD050581 Reynolds (PI) 9/27/06 – 8/31/11  
NIH/CHHD  
CERVICAL (NECK) AUSCULTATION AND DEVELOPMENTAL OUTCOMES  
This project is designed to relate cervical auscultation data acquired through digital signal processing technology (in particular, measurements of swallow-associated sounds during early rhythmic suckle feeding) to long-term neurologic and developmental outcomes. Role: Statistical Consultant
6. R01AI068119 Crosby (PI) 6/15/06 – 5/31/11  
NIH/BSPH  
DO CONDOMS PROTECT FROM NON-VIRAL SEXUALLY TRANSMITTED INFECTIONS?  
This project entails assessing condom effectiveness against chlamydia, trichomoniasis, and gonorrhea with particular attention to the moderating effects of gender and the losses in protective value associated with irregular and incorrect usage. Role: Co-Investigator
5. P01HL080100 Daugherty (PI) 4/08/06 – 3/31/11  
NIH/HLBP  
MECHANISMS OF ABDOMINAL AORTIC ANEURYSM FORMATION  
This project is designed to provide mechanistic insight into the mechanisms involved in the initiation and propagation of abdominal aortic aneurysms. Role: Administrative Core
4. R01HL073085 Cassis (PI) 6/03/03 – 4/30/18  
NIH/NHLBI  
ANGIOTENSIN – A LINK BETWEEN OBESITY AND HYPERTENSION  
These studies focus on the renin-angiotensin system of adipocytes as a mediator of obesity-hypertension in males versus females. Since obesity is the primary cause of hypertension in the US, and the prevalence of hypertension is increasing more rapidly in females than males, our studies will define mechanisms for these differences and uncover novel targets for drug therapy. Role: Statistician
3. R21MH066682 Crosby (PI) 4/01/03 – 3/31/07  
NIH/NIMH  
PROMOTING HIV RISK REDUCTION IN AFRICAN AMERICAN MEN  
The goal of this study is to determine if a brief, clinic-based, intervention will enhance condom use among African American men diagnosed with an STD. Role: Statistical Consultant
2. R01MH060104 Lynam (PI) 9/30/00 – 8/31/05  
NIH/NIMH  
ADULT ANTISOCIAL OUTCOMES OF PSYCHOPATHIC CHILDREN  
The goals of this project included ascertaining the stability of psychopathy across development, the reliability of its assessment, and its value in predicting delinquency. Role: Statistical Consultant
1. P50DA005312 Bardo (PI) 9/30/92 - 6/30/17  
NIH/NIDADRUG ABUSE PREVENTION - A LIFECOURSE PERSPECTIVE  
This project entails evaluations of school-based, curriculum-driven prevention programs with the evaluation of a comprehensive prevention program featuring both universal and selective high sensation value components. Most Recent Role: Director of Statistics and Psychometrics Core

## **Internal Funding**

In almost all academic years and most summers from 2004 to 2021, I received support from the Division of Cardiology in the Department of Internal Medicine. My responsibilities included collaborations and consultations with faculty, fellows, and research staff in Cardiology.

## **Teaching and Advising**

### ***Teaching at the University of Kentucky***

- CPH 565, Special Topics in Public Health: Introductory Concepts and Computations for Bayesian Biostatistics (Spring 2025)  
This is a three-credit elective course open to undergraduate and graduate students. Although students are expected to have some prior background (no pun intended) with statistics, there is no formal prerequisite.
- STA 697, Introduction to Proofs in Statistics and Probability (Fall 2024)  
This is a one-credit required course for first-year Statistics graduate students, providing background in logic and real analysis to help them in current and future coursework.
- STA 695, Special Topics in Statistical Theory: Introduction to Proofs in Statistics and Probability (Fall 2023)  
This was a one-credit elective course for first-year Statistics graduate students, providing mathematical tools to help them in current and future coursework.
- BST 636, Analytic Methods for Mining Healthcare Data (Spring 2023 as co-instructor with Douglas Zhang)  
This is a graduate course (a re-branding of CPH 636) whose topics include linear regression, logistic regression, discriminant analysis, trees, neural networks, and nearest neighbors methodology.
- STA 665, Analysis of Categorical Data (Spring 2021, Spring 2024)  
This elective course for Statistics graduate studies focused on some of the most frequently employed categorical data analysis techniques, including logistic regression, Poisson regression and common variants thereof, and generalized logit and proportional odds modeling.
- CPH 739, Independent Study in Biostatistics (Spring 2020)  
This independent study enrolled four students in the Epidemiology and Biostatistics Ph.D. program, whom I am supervising on their dissertation research. This independent study focused on their doctoral dissertations, group-based trajectory modeling, and information theory.
- CPH 739, Independent Study in Biostatistics (Fall 2019)  
This independent study enrolled four students in the Epidemiology and Biostatistics Ph.D. program, whom I am supervising on their dissertation research. For this independent study, they did work related to their doctoral dissertations and reviewed concepts of confounding, effect modification, and multivariable analysis.
- CPH 682, Quantitative Methods for Healthcare Management (Fall 2016, Fall 2017, Fall 2018)  
This course for first-year MHA students (a re-branding of HA 621) is intended to provide conceptual and computational skills for the kinds of data management and analysis for which a healthcare administrator may be responsible or have oversight.
- STA 715, Readings in Statistics: Parameter Estimation in Mixture-Type Models; Inference of Order in Mixture-Type Models (Fall 2016)  
I supervised Ya Qi, a Ph.D. Student in Statistics, on work related to her dissertation in the area of mixture modeling.

- STA 715, Readings in Statistics: Innovative Variation on Multifactor Dimensionality Reduction (Fall 2016)  
I supervised Zaid Al-Khaledi, a Ph.D. Student in Statistics, on work related to his dissertation in the area of dimension reduction.
- HA 621, Quantitative Methods for Healthcare Management (Fall 2015)  
This course for first-year MHA students, later re-branded as CPH 682, is intended to provide conceptual and computational skills for the kinds of data management and analysis for which a healthcare administrator may be responsible or have oversight.
- STA 715, Readings in Statistics: Multivariate Semiparametrics (Fall 2015)  
I supervised Liangdong Fan, a Ph.D. Student in Statistics, on work related to his dissertation on justifying an estimation procedure for a semiparametric model with multiple covariates.
- STA 715, Readings in Statistics: Nonparametric Extensions (Fall 2015)  
I supervised Sisheng Liu, a Ph.D. Student in Statistics, on work related to his dissertation on modifying compound estimation to localize the convolution parameter.
- STA 715, Readings in Statistics: Reconstituting Enhanced Classifiers; Developing Weighted Functions (Spring 2015)  
I supervised Rebecca Crouch, a Ph.D. Student in Statistics, on work related to her dissertation on developing an analogue to multifactor dimensionality reduction that uses a limited number of genotypic interactions to predict a continuous phenotype.
- BST 764, Applied Statistical Modeling in Public Health (Fall 2014)  
This is a graduate course for Ph.D. students in Epidemiology and Biostatistics (and Statistics). Topic include mixture modeling, nonparametric regression, structural equation modeling, stochastic modeling, and multifactor dimensionality reduction. Emphasis is placed upon developing skills for biostatistical research.
- STA 715, Readings in Statistics: Mixture Modeling and Applications (Spring 2014)  
I supervised Meng Qi, a Ph.D. Student in Statistics, on work related to her dissertation on analyzing correlated data from a contaminated normal model.
- STA 524, Probability (Fall 2013, Fall 2014)  
This is a graduate course for students in disciplines outside Statistics; many undergraduates enroll as well. Topics include unconditional and conditional probabilities, discrete and continuous random variables, joint and marginal probabilities, and sampling distributions.
- STA 606, Theory of Statistical Inference I (Spring 2013, Spring 2016, Spring 2020, Spring 2022)  
This is a graduate course directed exclusively to students in Statistics. Topics include convergence concepts, methods for finding point and interval estimators, methods for finding hypothesis tests, sufficiency, and evaluation of point estimators.
- CPH 739, Independent Study in Biostatistics: Raman Spectroscopy, Stacking, and Boosting (Spring 2013)  
I supervised Jing Guo, a Ph.D. Student in Epidemiology and Biostatistics, on work that formed the basis for part of her dissertation on nonparametric regression and pattern recognition.
- STA 715, Readings in Statistics: Mixture Modeling and Genetic Data Analysis (Fall 2012)  
I supervised Feng Zhou, a Ph.D. Student in Statistics, on work that formed the basis for part of her dissertation on the contaminated chi-square model and its applications to microarray data analysis.
- STA 715, Readings in Statistics: Multivariate Nonparametric Regression (Spring 2012)  
I supervised Limin Feng, a Ph.D. Student in Statistics, on work that formed the basis for part of her dissertation on compound estimation with multiple covariates and Steinization in nonparametric regression.

- STA 715, Readings in Statistics: Mixture and Contamination Modeling (Spring 2012, Spring 2013)  
I supervised Qian Fan, a Ph.D. Student in Statistics, on work that formed the basis for part of her dissertation on the bilaterally contaminated normal model and its applications to microarray data analysis.
- STA 570, Basic Statistical Analysis (Spring 2012)  
This is a graduate course that addresses point and interval estimation, hypothesis testing, simple linear regression, and other topics relevant to students engaging in research.
- CPH 767, Dissertation Residency Credit (Fall 2011, Spring 2012)  
Students in the Ph.D. program in Epidemiology and Biostatistics enroll in this course while completing their dissertation research. The instructor of record is the Director of Graduate Studies for the Ph.D. program in Epidemiology and Biostatistics, a role I fulfilled from 2009 to 2012.
- BST 675, Biometrics I (Fall 2010, Fall 2011)  
This is a graduate course directed predominantly to students pursuing a Ph.D. in Epidemiology and Biostatistics. Topics include unconditional and conditional probabilities, discrete and continuous random variables, joint and marginal probabilities, and sampling distributions.
- CPH 786, Doctoral Seminar (Spring 2010, Spring 2012, Fall 2022, Spring 2025)  
This is a graduate course directed solely to students pursuing a Ph.D. in Epidemiology and Biostatistics. The course consists of colloquia-style activities that help students develop professionally and expose them to the interface between epidemiologic and biostatistical research.
- BST 676, Biometrics II (Spring 2010, Spring 2011)  
This is a graduate course directed predominantly to students pursuing a Ph.D. in Epidemiology and Biostatistics. Topics include concepts from large sample theory, maximum likelihood and other methods for point estimation, best unbiased point estimation, likelihood ratio and other methods for hypothesis testing, uniformly most powerful hypothesis tests, interval estimation via inversion and pivoting, and uniformly most accurate interval estimation.
- STA 623, Theory of Probability (Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2020, Fall 2021, Fall 2022, Fall 2023, Fall 2024)  
This is a graduate course directed exclusively to students in Statistics. Topics include unconditional and conditional probabilities, random variables, expected values and higher order moments, commonly encountered parametric families, joint and marginal probabilities, and random sampling.
- STA 715, Readings in Statistics: Nonparametric Regression (Spring 2009)  
I supervised Benjamin Hall, a Ph.D. Student in Statistics, on work that formed the basis for part of his dissertation on simultaneous confidence bands for mean response functions and their derivatives.
- STA 525, Introduction to Statistical Inference (Spring 2008, Spring 2014, Spring 2015)  
This is a graduate course directed to students in disciplines other than Statistics; many undergraduates enroll as well. Topics include maximum likelihood estimation, likelihood ratio tests, best unbiased estimators, and uniformly most powerful tests.
- CPH 931, Professional Seminar in Biostatistics (Spring 2007 as co-instructor with Richard Kryscio, Fall 2008 and Fall 2009 as sole instructor)  
This advanced course for Dr.P.H. students introduces sophisticated methods (e.g., weighted least squares, robust regression, ridge regression, nonparametric regression, polytomous regression, proportional odds regression, Poisson regression, and negative binomial regression) that can be employed when the methods introduced in CPH 930 do not apply.

- CPH 636, Data Mining in Public Health (Spring 2006, Spring 2008, Spring 2009, Spring 2016 as sole instructor, Fall 2019 as co-instructor with Olga Vsevolozhskaya, Spring 2021 as sole instructor)  
This is a graduate course, eventually re-branded as BST 636, whose topics include linear regression, logistic regression, discriminant analysis, trees, neural networks, and nearest neighbors methodology.
- STA 601, Theory of Statistical Inference II (Spring 2006, Spring 2007)  
This is a graduate course directed exclusively to students in Statistics. Topics include best unbiased estimators, uniformly most powerful tests, uniformly most accurate confidence sets, and standard asymptotic results in likelihood inference.
- STA 503, Introduction to Statistical Methods (Fall 2005, Fall 2006)  
This is a graduate course directed exclusively to students in Statistics. Topics include point and interval estimation, hypothesis testing, linear regression, logistic regression, and proportional hazards regression.
- CPH 739, Independent Study in Biostatistics (Fall 2005)  
I supervised Lorie Chesnut, an M.P.H. student concentrating in Epidemiology, on work that led to manuscripts #38 and #39 above.
- STA 624, Applied Stochastic Processes (Spring 2005)  
This is a graduate course in stochastic processes directed primarily to students in Statistics but that draws students from some other departments as well. Topics include Markov chains in discrete time, Poisson processes, Markov chains in continuous time, and renewal processes.
- STA 715, Readings in Statistics: Topics in Mixture Modeling (Spring 2005)  
I supervised Hongying Dai, a Ph.D. Student in Statistics, on work that formed the basis for part of her dissertation on inference in contamination models.
- CPH 739, Independent Study in Biostatistics (Summer 2004)  
I supervised Julie Tackett, an M.P.H. student concentrating in Epidemiology, on work that led to manuscript #7 above.
- CPH 930, Advanced Biostatistical Methods in Public Health (Spring 2004, Fall 2004, Spring 2005, Fall 2006)  
This introductory course for Dr.P.H. students addresses linear regression, logistic regression, proportional hazards regression, and other topics relevant to students in public health.
- CPH 630/STA 681, Biostatistics II (Spring 2004, Fall 2004, Spring 2005 – taught concurrently with CPH 930)  
This sequel to Biostatistics I addresses linear regression, logistic regression, proportional hazards regression, and other topics relevant to students in public health.
- STA 580, Biostatistics I (Fall 2003, Spring 2004, Fall 2007, Fall 2008, Spring 2009, Spring 2011, Spring 2013)  
This is a graduate course that addresses point and interval estimation, hypothesis testing, simple linear regression, and other topics relevant to students in public health.

### ***Teaching at Case Western Reserve University***

- STAT 312, Statistics for Engineering and Science (Fall 2001, Fall 2002)
- MATH 126, Mathematics II (Spring 1999)
- MATH 121, Calculus for Science and Engineering I (Fall 1997, Spring 1998, Fall 1998)

### ***Guest lectures on biostatistics given in other courses at the University of Kentucky***

- BST 762, Longitudinal Data Analysis (Spring 2012)
- EPI 715, Research Methods in Epidemiology and Biostatistics (Spring 2012)
- CPH 778 Section 402, Current Topics in Public Health (Fall 2011)
- HON 121, Honors Seminar on Emerging Technology (twice in Fall 2008)

- OBI 650, Oral Biology for Postgraduate Dental Students (Fall 2004, Fall 2005, Fall 2006)
- MED 825, Introduction to Clinical Research (Spring 2004)

### ***Course development at the University of Kentucky***

- CPH 636, Data Mining in Public Health (first offered in Spring 2006)  
This course, which Marta Mendiondo and I developed, addresses statistical techniques for and practical issues associated with the exploration of large public health data sets, the development of models from such data sets, and the effective communication of one's findings.
- BST 675, Biometrics I (first offered in Fall 2009)  
This course, which Heather Bush and I developed with input from our colleagues in Biostatistics, introduces probability, discrete random variables, continuous random variables, and sampling distributions.
- BST 676, Biometrics II (first offered in Spring 2010)  
This course, which Heather Bush and I developed with input from our colleagues in Biostatistics, introduces techniques for constructing and evaluating point estimators, hypothesis testing procedures, and interval estimators.
- BST 764, Applied Statistical Modeling for Medicine and Public Health (first offered in Fall 2011)  
This course, which I developed with input from colleagues in Biostatistics, introduces finite mixture models, nonparametric regression models, covariance-based models, and stochastic models.

### ***Faculty mentoring at the University of Kentucky***

3. Mentoring committee member for Reuben Adatorwovor, Assistant Professor (Biostatistics)
2. Mentor for Jiawei Zhang, Assistant Professor (Statistics)
1. Mentor for Chenglong Ye, Assistant Professor (Statistics)

### ***Previous faculty mentoring at the University of Kentucky***

4. Grant writing workshop mentor for Reuben Adatorwovor, Assistant Professor (Biostatistics)
3. K01 Statistical advisor to Fredrick Onono, Assistant Professor (Internal Medicine)
2. Mentor for Derek Young, Assistant Professor (Statistics)
1. Mentoring committee member for Erin Abner, Assistant Professor (Epidemiology)

### ***Advising at the University of Kentucky***

1. Dissertation advisor for Cameron Bushling, Ph.D. Student (Epidemiology and Biostatistics)

### ***Previous advising at the University of Kentucky***

Note: The dates represent the University's soonest conferrals of degrees following the students' successful defenses, but some students may have graduated later than these dates.

20. Dissertation advisor for Jiacheng Xu (Ph.D., Statistics, December 2024)  
Mr. Xu won one of the Statistics Department's 2024 Anderson Awards for a poster presentation at the Southern Regional Council of Statistics summer research conference.
19. Dissertation advisor for Taylor Estep (Ph.D., Epidemiology and Biostatistics, August 2023)
18. Dissertation advisor for Gaixin Du (Ph.D., Epidemiology and Biostatistics, May 2023)
17. Dissertation advisor for Ya Qi (Ph.D., Statistics, August 2022)
16. Dissertation advisor for Shaowli Kabir (Ph.D., Epidemiology and Biostatistics, May 2022)
15. Dissertation advisor for Zaid Al-Khaledi (Ph.D., Statistics, May 2019)
14. Dissertation advisor for Ye Li (Ph.D., Statistics, December 2018)
13. Dissertation advisor for Liangdong Fan (Ph.D., Statistics, May 2018)
12. Dissertation advisor for Sisheng Liu (Ph.D., Statistics, August 2017)



11. Dissertation advisor (co-advisor David Fardo) for Frank Appiah (Ph.D., Epidemiology and Biostatistics, May 2017)
10. Dissertation advisor for Rebecca Crouch (Ph.D., Statistics, December 2016)  
Ms. Crouch won one of the Statistics Department's 2016 Anderson Awards for Research.
9. Dissertation advisor for Meng Qi (Ph.D., Statistics, May 2016)
8. Dissertation advisor (co-advisor Bin Huang) for Jing Guo (Ph.D., Epidemiology and Biostatistics, May 2015)
7. Dissertation advisor for Feng Zhou (Ph.D., Statistics, December 2014)
6. Dissertation advisor for Qian Fan (Ph.D., Statistics, December 2014)
5. Dissertation advisor for Limin Feng (Ph.D., Statistics, August 2013)
4. Capstone advisor for Wei Deng (M.P.H., Biostatistics, August 2011)
3. Dissertation advisor for Benjamin Hall (Ph.D., Statistics, May 2010)  
Mr. Hall won one of the Statistics Department's 2010 Anderson Awards for Research.
2. Capstone advisor for Alice Smith (M.P.H., Biostatistics, December 2007)
1. Dissertation advisor (co-advisor Kert Viele) for Hongying Dai (Ph.D., Statistics, August 2006)  
Ms. Dai won the Statistics Department's 2006 R. L. Anderson Award and the 2006 student paper competition of the American Statistical Association's Biopharmaceutical Section. (The paper was an early version of manuscript #12 above.)

### ***Previous co-advising at the University of Kentucky***

Note: The dates represent the University's soonest conferrals of degrees following the students' successful defenses, but some students may have graduated later than these dates.

2. Dissertation co-advisor (advisor Simon Bonner) for Amanda Ellis (Ph.D., Statistics, May 2018)
1. Dissertation co-advisor (advisor Wayne Sanderson) for David Bardach (Ph.D., Epidemiology and Biostatistics, May 2015)

### ***Student committee membership at the University of Kentucky***

4. Dissertation committee member for Qi Yan (Ph.D., Epidemiology and Biostatistics)
3. Dissertation committee member for Koby Shaykin (Ph.D., Psychology)
2. Dissertation committee member for Aram Ansary Ogholbake (Ph.D., Computer Science)
1. Dissertation committee member for Yuhang Jiang (Ph.D., Computer Science)

### ***Previous student committee membership at the University of Kentucky***

Note: The dates represent the University's soonest conferrals of degrees following the students' successful defenses, but some students may have graduated later than these dates.

74. Dissertation committee member for Leiyue Li (Ph.D., Statistics, August 2024)
73. Capstone exam committee member for Andrew Freeman (Master of Applied Statistics, May 2024)
72. Dissertation committee member for Meera Marji (Ph.D., Epidemiology and Biostatistics, May 2024)
71. Dissertation committee member for Aviv Brokman (Ph.D., Statistics, May 2024)
70. Dissertation committee member for Dongying Zhan (Ph.D., Statistics, December 2023)
69. Outside examiner for Kaitlin Bruegge (Ph.D., Mathematics, August 2023)
68. Dissertation committee member for Yanxi Li (Ph.D., Statistics, August 2023)
67. Capstone exam committee member for Theo Brooks (Master of Applied Statistics, May 2023)
66. Capstone exam committee member for Diane Parr (Master of Applied Statistics, May 2023)
65. Dissertation committee member for Yi Ze (Ph.D., Statistics, August 2021)
64. Dissertation committee member for Li Xu (Ph.D., Statistics, May 2020)
63. Dissertation committee member for Orhan Abar (Ph.D., Computer Science, August 2019)

62. Dissertation committee member for Xiaoqiong Fang (Ph.D., Statistics, December 2018)
61. Dissertation committee member for Rachel Vickers-Smith (Ph.D., Epidemiology and Biostatistics, December 2016)
60. Dissertation committee member for Lava Timsina (Ph.D., Epidemiology and Biostatistics, December 2016)
59. Dissertation committee member for Jacqueline Bonsu, (Ph.D., Psychology, December 2016)
58. Dissertation committee member for Xiuhua Ding (Ph.D., Epidemiology and Biostatistics, August 2016)
57. Dissertation committee member for Marilyn Campbell (Ph.D., Exercise Science, May 2016)
56. Dissertation committee member for Zhiyuan Shen (Ph.D., Statistics, December 2015)
55. Dissertation committee member for Alison Kaiser (Ph.D., Psychology, August 2015)
54. Dissertation committee member for Michael Singleton (Ph.D., Epidemiology and Biostatistics, May 2015)
53. Dissertation committee member for Yinglei Li (Ph.D., Statistics, December 2014)
52. Dissertation committee member for Alireza Zeinali (Ph.D., Civil Engineering, August 2014)
51. Dissertation committee member for Carolyn Pearson (Ph.D., Psychology, August 2014)
50. Capstone committee member for Tyler McGrady (M.P.H., Epidemiology, May 2014)
49. Dissertation committee member for Amanda Wiggins (Ph.D., Epidemiology and Biostatistics, December 2013)
48. Capstone committee member for Sehee Rim (M.P.H., Epidemiology, August 2013)
47. Capstone committee member for Rachel Vickers (M.P.H., Health Services Management, August 2012)
46. Dissertation committee member for Joyce Robl (Ph.D., Health Promotion, May 2012)
45. Capstone committee member for Robin Pendley (Dr.P.H., Health Services Management, May 2012)
44. Capstone committee member for Angela Carman (Dr.P.H., Health Services Management, May 2012)
43. Capstone committee member for Zhen Huang (M.P.H., Biostatistics, December 2011)
42. Capstone committee member for Maria Gomez (Dr.P.H., Health Services Management, August 2011)
41. Dissertation committee member for Zack Adams (Ph.D., Psychology, August 2011)
40. Capstone committee member for Paula Arnett (Dr.P.H., Health Services Management, August 2011)
39. Dissertation committee member for Ursula Bailey (Ph.D., Psychology, August 2011)
38. Dissertation committee member for Angela Schoergendorfer (Ph.D., Statistics, August 2011)
37. Capstone committee member for Claude Dadge (M.P.H., Health Services Management, May 2011)
36. Dissertation committee member for Yanling Hu (Ph.D., Statistics, May 2011)
35. Capstone committee member for Charlotte Baker (Dr.P.H., Epidemiology, May 2011)
34. Capstone committee member for Keisha Houston (Dr.P.H., Epidemiology, May 2011)
33. Capstone committee member for Rick Ingram (Dr.P.H., Health Services Management, December 2010)
32. Capstone committee member for Donna Schmutzler (Dr.P.H., Health Services Management, December 2010)
31. Capstone committee member for Nicholas Hines (M.P.H., Health Behavior, August 2010)
30. Capstone committee member for Ariel Langevin (M.P.H., Health Services Management, August 2010)
29. Capstone committee member for Jennifer Marcum (Dr.P.H., Epidemiology, May 2010)
28. Capstone committee member for Patricia Eilerman (M.P.H., Epidemiology, May 2010)
27. Capstone committee member for Naomi Hudson (Dr.P.H., Epidemiology and Environmental Health, May 2010)

26. Capstone committee member for April Young (M.P.H., Health Behavior and Epidemiology, May 2010)
25. Capstone committee member for Alison Glassman (M.P.H., Health Behavior, May 2010)
24. Dissertation committee member for Bill Barton (Ph.D., Statistics, May 2010)
23. Capstone committee member for Radhika Katragunta (M.P.H., Health Services Management, August 2009)
22. Capstone committee member for Ashley Tillman (M.P.H., Health Behavior, August 2009)
21. Outside examiner for David Link (Ph.D., Chemistry, August 2009)
20. Capstone committee member for Jeff Tritle (M.P.H., Epidemiology, May 2009)
19. Capstone committee member for Srishti Shrestha (M.P.H., Epidemiology, May 2009)
18. Outside examiner for Jie Wang (Ph.D., Computer Science, December 2008)
17. Dissertation committee member for Christopher Berger (Ph.D., Exercise Science, August 2008)
16. Capstone committee member for Ashley Brooks (M.P.H., Health Services Management, August 2008)
15. Capstone committee member for Littron Cole (M.P.H., Health Services Management, August 2008)
14. Capstone committee member for Sabrina Walsh (Dr.P.H., Biostatistics, August 2008)
13. Dissertation committee member for Matthew Hersh (Ph.D., Statistics, December 2007)
12. Dissertation committee member for Rhonda VanDyke (Ph.D., Statistics, December 2007)
11. Capstone committee member for Torrie Harris (Dr.P.H., Health Behavior, August 2007)
10. Capstone committee member for Leo Gayheart (M.P.H., Epidemiology, August 2007)
9. Dissertation committee member for Mark Cullum (Ph.D., Exercise Science, August 2007)
8. Outside examiner for Andrea Milam (Ph.D., Instruction and Administration, August 2007)
7. Capstone committee member for Lorie Chesnut (M.P.H., Epidemiology, December 2005)  
Ms. Chesnut won Second Prize in a competition for best abstract at the Twelfth Annual Maternal Child and Health Epidemiology Conference. (The abstract and the talk that she gave were based on work initiated during her independent study with me.)
6. Capstone committee member for Matin Katirai (M.P.H., Epidemiology, August 2005)
5. Capstone committee member for Jenny Olges (M.P.H., Epidemiology, August 2005)
4. Capstone committee member for Judy Stivers (M.P.H., Epidemiology, August 2005)
3. Capstone committee member for Julie Tackett (M.P.H., Epidemiology, August 2005)
2. Capstone committee member for Elizabeth Masterson (M.P.H., Epidemiology, May 2005)
1. Capstone committee member for Sophie Zhang (M.P.H., Epidemiology, May 2005)

***Previous supervision or support of research assistants at the University of Kentucky***

1. Patrick Kenkel, Undergraduate, supported by NSF grant DMS-0706857
2. Leonard Gordon, Ph.D. Student in Epidemiology and Biostatistics, supported by the College of Public Health at UKY
3. Limin Feng, Ph.D. Student in Statistics, supported by the College of Public Health at UKY
4. Benjamin Hall, Ph.D. Student in Statistics, supported by NSF grant DMS-0706857
5. Daniel Russell, Undergraduate, supported by NSF grant DMS-0706857
6. David Bardach, Ph.D. Student in Epidemiology and Biostatistics, supported by the College of Public Health at UKY
7. Limin Feng, Ph.D. Student in Statistics, supported by ARO grant W911NF-12-1-0422 Mod 1
8. Lava Timsina, Ph.D. Student in Epidemiology and Biostatistics, supported by the College of Public Health at UKY
9. Rachel Vickers, Ph.D. Student in Epidemiology and Biostatistics, supported by the College of Public Health at UKY
10. Paul Ditterline, Ph.D. Student in Epidemiology and Biostatistics, supported by the Center for Drug Abuse Research Translation at UKY
11. Meng Qi, Ph.D. Student in Statistics, supported by University Research Professor award
12. Rebecca Crouch, Ph.D. Student in Statistics, supported by University Research Professor award

13. Frank Appiah, Ph.D. Student in Epidemiology and Biostatistics, supported by University Research Professor award
14. Liangdong Fan, Ph.D. Student in Statistics, supported by University Research Professor award
15. Sisheng Liu, Ph.D. Student in Statistics, supported by ARO grant W911NF-17-1-0040
16. Shaowli Kabir, Ph.D. Student in Epidemiology and Biostatistics, supported by ARO grant W911NF-17-1-0040
17. Jiacheng Xu, Ph.D. Student in Statistics, supported by ARO grant W911NF-17-1-0040 and later by the Dr. Bing Zhang Department of Statistics
18. Pengyuan Chen, M.S. Student in Statistics, supported by ARO grant W911NF-17-1-0040 and later by the Dr. Bing Zhang Department of Statistics

## **Professional Service**

### ***Journal of Biometrics and Biostatistics***

- Editor-in-Chief (2012-2014)
- Editorial Board (2010-2012, 2015)

### ***Journal of Applied Statistics***

- Associate Editor (2017-)

### ***American Statistical Association***

- President, Kentucky Chapter (2012-2016)

### ***Delta Omega Honorary Society in Public Health***

- President-Elect, Beta Gamma Chapter (2017-2019)
- President, Beta Gamma Chapter (2019-2021)
- Past President, Beta Gamma Chapter (2021-2023)

### ***Collaborative Meetings***

- Invited Presenter at “Building a Consensus on the Assessment of Bleeding in Patients with Coronary Artery Disease” in April 2008, a Think Tank organized by the Duke Clinical Research Institute.

### ***Conferences***

- Member of Organizing Committee for and Moderator at Biostatistics 2014.
- Member of Organizing Committee for and Chair of Keynote Sessions at Biometrics 2013.
- Chair of “Censored and Missing Data Analysis,” a Contributed Session at June 2010 ICASA.
- Organizer and Chair of “Statistical Challenges in Measurement Error Models,” an Invited Session at June 2009 ICASA.
- Chair of “To Mix or Not to Mix,” an Invited Session at March 2005 ENAR.
- Organizer and Chair of “Mixture Modeling: Modern Approaches and Applications,” an Invited Session at May 2004 Interface.

### ***Reviewing for funding agencies***

- Temporary member of CICS study section for National Institutes of Health (2016)
- Proposal reviewer for Natural Sciences and Engineering Research Council of Canada (2013, 2014)

### ***Reviewing for journals and books***

- *IEEE Transactions on Neural Networks and Learning Systems* (2021)
- *Journal of Rural Health* (twice in 2016)

- *EBioMedicine* (2016)
- *Journal of Multivariate Analysis* (2016)
- *Sage Open* (2014 as an “Article Editor”)
- *Journal of the Korean Statistical Society* (twice in 2014)
- *Statistical Papers* (twice in 2014)
- *Biometrics* (2013)
- *The American Statistician* (twice in 2013)
- *Arteriosclerosis, Thrombosis, and Vascular Biology* (2013, twice in 2015)
- *Computational Statistics* (twice in 2013)
- A chapter of the book *Ethics Training in Action* (twice in 2012)
- *Electronic Journal of Statistics* (2012)
- *Journal of Women’s Health Care* (2012)
- *Journal of Quantitative Spectroscopy and Radiative Transfer* (2011, twice in 2013 and 2014, 2016)
- *NeuroImage* (twice in 2011)
- *Medical Decision Making* (2011)
- *Evaluation and the Health Professions* (2010)
- *Molecular Therapy* (2010)
- *Statistics and Probability Letters* (2009)
- *Annals of Statistics* (2008)
- *Statistica Sinica* (twice in 2007, 2020)
- *Canadian Journal of Statistics* (2006, 2007, twice in 2014)
- *IEEE Transactions on Image Processing* (twice in 2006)
- *Journal of Statistical Planning and Inference* (2005, twice in 2006, 2008, twice in 2011)
- *Journal of the American Statistical Association* (2004, 2005, 2006, 2009, 2010, 2019)
- *Journal of Statistical Computation and Simulation* (2004)

### ***Reviewing for other institutions***

Note: Below, the term “promotion” is used generically to refer to either promotion or tenure or both.

- Faculty promotion external reviewer for Miami University (2023)
- Faculty promotion external reviewer for Mississippi State University (2022)
- Faculty promotion external reviewer for University of Florida (2021)
- Faculty promotion external reviewer for Texas Tech University (2020)
- Faculty promotion external reviewer for Case Western Reserve University (2016)
- Faculty promotion external reviewer for University of Louisville (2016, 2023)
- Faculty promotion external reviewer for Wayne State University (2016)
- Faculty promotion external reviewer for Oregon State University (2016)
- Doctoral thesis external reviewer for University of Alberta (2013)
- Faculty promotion external reviewer for Cleveland Clinic (2011, 2015)
- Faculty promotion external reviewer for Virginia Commonwealth University (2010)

### ***Written educational and outreach material***

Note: The dates represent the timing of my original contributions. These works may have been since updated by others.

- Gelman, Andrew; Carlin, John; Stern, Hal; Charnigo, Richard (2000). “Solutions to exercises from the book, *Bayesian Data Analysis*.”
- Charnigo, Richard (2001). “Solutions Manual for *Regression Analysis by Example*.”

### ***Training and outreach***

- Introductory talk on statistical learning for UKY Epidemiology/Biostatistics seminar series (2023)
- Responsible conduct of research volunteer trainer at UKY (49 sessions) (2022-)
- Talk on ASA p-values statement for Center for Clinical and Translation Science (2020)
- Talk on ASA p-values statement for Center for Health Services Research (2019)
- Two talks on structural equation modeling in Amos (2016)
- Two talks on multiple linear regression in Excel (2016)
- Brief talk on structural equation modeling for Center of Clinical and Translational Science (2015)
- Three talks on generalized linear mixed modeling for Quantitative Initiative in Policy and Social Research, Center of Clinical and Translational Science, and CDART trainees (2014)
- Talk on power and sample size for Preventive Medicine/Public Health residents at UKY (2014)
- Three talks on trajectory modeling for Quantitative Initiative in Policy and Social Research, Center of Clinical and Translational Science, and CDART trainees (2013)
- Led part of review session for Preventive Medicine/Public Health residents at the University of Kentucky planning to take American Board of Preventive Medicine certification examination (2013)
- Three talks on linear mixed modeling for Quantitative Initiative in Policy and Social Research, Center of Clinical and Translational Science, and CDART trainees (2013)
- Talk on structural equation modeling to Applied Statistics Laboratory personnel (2012)
- Talk on generalized linear mixed modeling and group-based trajectory modeling for CDART trainees (2011)
- Talk on group-based trajectory modeling at CDART Research Forum (2011)
- Talk on analyzing narrow population data at the Annual Maternal and Child Health Epidemiology Conference (2010), materials available via <http://www.richardcharnigo.net/RE/index.html>
- Led part of review session for University of Kentucky and other students planning to take Certified in Public Health examination (2009-2015)
- Presentation to students of Lafayette and Henry Clay High Schools in Fayette County on statistical thinking and applications (2009)
- Talk on analyzing rare event data at the Annual Meeting of the National Birth Defects Prevention Network (2009), materials available via <http://www.richardcharnigo.net/RE/index.html>
- Talk on analyzing rare event data at the Annual Maternal and Child Health Epidemiology Conference (2008), materials available via <http://www.richardcharnigo.net/RE/index.html>
- Talk on linear mixed modeling at the Workshop on Statistical Methods in Drug Abuse, which was held for a national audience at the University of Kentucky (2008)
- Guest lecture on statistical concepts for Dietetic Interns at the University of Kentucky (2007, 2009)
- Half-day seminar on logistic regression for Kentucky Department for Public Health personnel (2006)

### **Institutional Service at the University of Kentucky (UKY)**

Note: Not all committees met regularly, and there were not always well-defined closing dates for my participation; some closing dates shown below are estimates.

#### ***University level***

- Faculty Appeals Committee, Chair (Winter 2025)
- Faculty Appeals Committee, Chair (Fall 2023)
- Ad-Hoc Committee for Appointing an Interim Dean in the College of Public Health (2023)
- University Senate Ad-Hoc Teacher Course Evaluation Committee (2023-2024)
- University Senate Calendar Committee, Chair (2022-2024)
- Health Care Clinical Sciences Area Committee, Chair (2021-2024)
- Ad-Hoc Committee for Appointing an Interim Dean of the Graduate School (2021)
- Senate Council Presidential Evaluation Subcommittee (2020-2022)
- Senate Council (elected member) (2020-2022)

- Senate Council Liaison to Graduate Council (2020-2021)
- Senate Council Liaison to Health Care Colleges Council (2019-2020)
- Health Care Clinical Sciences Area Committee (2014-2016, 2016-2017)
- University Senate Academic Programs Committee (2011-2014, 2019-2024)
- University Senate (2011-2014, 2019-2024)
- Faculty Associate, Center for Research on Violence Against Women (2010-2013)
- Advisory Board, Quantitative Initiative for Policy and Social Research (2010-2014)
- Director of Graduate Studies, Ph.D. in Epidemiology and Biostatistics (2009-2012)
- Health Care Colleges Council (2009-2011)

### ***College level***

- Ad-Hoc Committee for Appointing a Chair of the Biostatistics Department, Chair (2022)
- Ph.D. in Epidemiology and Biostatistics Data Analysis Subexamination Committee, Chair (2020)
- College of Public Health Administrative Council (2017)
- College of Public Health Ad-Hoc Appeal Committee, Chair (2017)
- Ph.D. in Epidemiology and Biostatistics Curriculum Committee (2016-2017)
- Ph.D. in Epidemiology and Biostatistics Biostatistics Subexamination Committee, Co-Chair (2014-2015) and Member (2015-2016)
- College of Public Health Alumni Relations Committee (2014-2018)
- College of Public Health (Research) Paper of the Year Committee (2014)
- College of Public Health Accreditation Midcourse Review Committee (2013-2014)
- Ph.D. in Epidemiology and Biostatistics Support Committee, Chair (2011-2012)
- Ph.D. in Epidemiology and Biostatistics Program Committee, Chair (2010-2012)
- College of Medicine M.D./Ph.D. Internal Advisory and Admissions Committee (2010-2014)
- Ph.D. in Epidemiology and Biostatistics Biostatistics Concepts Subexamination Committee, Chair (2010-2013) and Member (2013-2014)
- Ph.D. in Epidemiology and Biostatistics Admissions Committee, Chair (2009-2012) and Member (2012-2014)
- College of Public Health Assessment and Evaluation Committee (2008-2011)
- College of Public Health Faculty Council (2005-2009), Vice Chair (2005-2006)
- College of Public Health Ad-Hoc Associate Dean Committee (2007)
- College of Public Health Research Committee (2006-2007)
- College of Public Health Ad-Hoc Curriculum Committee (2006)
- College of Public Health (Staff) Employee of the Year Committee (2006)
- College of Public Health Academic Affairs Committee (2004-2006)
- Judge, College of Public Health Research Symposium (2004, 2006)

### ***Department level***

- Biostatistics Department Self-Study Committee, Chair (2023-2024)
- Statistics Department Recruitment Committee (2019-2020)
- Statistics Department Executive Committee (2015-2020)
- Statistics Department Mentoring Committee (2015-2020)
- Statistics Department Graduate Studies Committee (2013-2014, 2015-2019)
- Statistics Department Ph.D. Examination in Probability Committee (2013, 2015, 2019)
- Statistics Department M.S. Examination in Theory Committee (Chair some years) (2010-2014, 2016-2017, 2020-)
- Biostatistics Department Dr.P.H. Qualifying Examination Committee (2007-2008)
- Statistics Department Ad-Hoc M.S. Program Committee (2007-2008)
- Statistics Department Grants/Contracts Committee (2006-2010)

- Biostatistics Department Ad-Hoc Ph.D. Program Committee (2006-2008)
- Statistics Department M.S. Examination in Data Analysis Committee (2006, 2007)
- Statistics Department M.S. Examination in Probability Committee (2005, 2008, 2009)
- Biostatistics Department Dr.P.H. Core Principles Examination Committee (2004-2008)
- Statistics Department M.S. Examination in Inference Committee (2004, 2006, 2007)
- Statistics Department Meeting Recorder (2004-2005)
- Statistics Department Computing Committee (2003-2009)
- Statistics Department Picnic Committee (2003-2008)

## **Institutional Service at Case Western Reserve University (CWRU)**

### ***Graduate Student Senate***

- President (2000-2002) and Recording Secretary (1999-2000)
- Senator (1999-2003)

### ***University level***

- Presidential Search Committee (2001-2002)
- Faculty Senate General Assembly (2000-2002)
- Commencement Speaker Committee (2000-2001)
- Faculty Senate Graduate Studies Committee (1999-2001)
- University Circle Incorporated Parking and Security Committee (1999-2000)

## **Miscellaneous**

### ***Awards/Honors***

- University Senate's Outstanding Senator Award (2023) (UKY)
- Most Productive Faculty Mentor, Public Health Showcase (2023) (UKY)
- Nominated to run for (and did run for) Faculty Trustee (2022) (UKY)
- Teachers Who Made a Difference, honoree (2017) (UKY)
- Inducted into Delta Omega Honorary Society in Public Health (2011)
- Golden Apple Award (2010): teaching excellence, College of Public Health (UKY)
- 2000 Outstanding Scientists 2008/2009, International Biographical Centre
- Marquis Who's Who in the World (2008 and several years thereafter)
- Wethington Award (2008-2018): College of Arts and Sciences (UKY)
- Nominated for Provost's Award for Outstanding Teaching (2008) (UKY)
- Marquis Who's Who in Science and Engineering (2008, 2011/2012)
- Marquis Who's Who in America (2007 and several years thereafter)
- Wethington Award (2006, 2008, 2010-2020): College of Public Health (UKY)
- Academic Keys Who's Who in Health Sciences Education (2006)
- John Schoff Millis Award (1997): best academic record, College of Arts and Sciences (CWRU)
- Inducted into Phi Beta Kappa (1997)
- Max Morris Prize (1997) and Webster-Godman-Simon Award (1996): excellence in mathematics (CWRU)
- National Merit Scholarship (1994-1995)
- Finalist, White House Commission of Presidential Scholars (1994)
- Rensselaer Medal (1993)



***Selected other employment and community activities***

- Parish Council, Holy Spirit Parish (Newman Center) in Lexington, Kentucky (2015-2020)
- Jury duty, Fayette County KY (2022) (I was not seated on a trial.)
- Jury duty, Fayette County KY (2012) (I was not seated on a trial.)
- Jury duty, Cuyahoga County OH (2001) (I was seated on one trial, a civil case.)
- Substitute pianist/vocalist, St. Gregory Parish in South Euclid, Ohio (2000)
- Proofreader, *The Best Kept Secrets of Parma: The Garden City* (1997)
- Pianist, St. Ladislav Parish in Westlake, Ohio (1990-2002)