

# Curriculum Vitae

## Robert T. Krafty

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Department of Biostatistics & Bioinformatics  
 Rollins School of Public Health  
 Emory University

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### Research Interests:

**Methodological:** Time Series; Signal Analysis; Multilevel Data; Longitudinal Data; Bayesian Methods; Functional Data; High-Dimensional Data Analysis

**Collaborative:** Mental & Behavioral Health; Mobile Health; Sleep; Stress; Neuroscience.

### Education:

University of Pennsylvania, Philadelphia, PA	
PhD in Biostatistics	2007
MA in Mathematics	2002
SUNY at Stony Brook, Stony Brook, NY	
BS in Mathematics & Dance, magna cum laude, Honors College	2000

### Academic Positions:

Rollins Distinguished Professor of Biostatistics & Bioinformatics, Emory University	2021-Present
Chair of Biostatistics & Bioinformatics, Emory University	2020-Present
Acting Professor of Biostatistics & Bioinformatics, Emory University	2020-2021
Associate Professor of Biostatistics, University of Pittsburgh	2015-2020
Director, Graduate Programs in Statistics, Temple University	2014-2015
Assistant Professor of Statistics, Temple University	2013-2016
Assistant Professor of Statistics, University of Pittsburgh	2007-2013

### Published Peer-Reviewed Journal Articles:

\*first authored by student or post-doc for whom I was their primary or co-primary mentor

### Methodological:

1. \*Tuft M, Hall MH, **Krafty RT** (2021+) "Spectra in Low-rank Localized Layers (SpeLLL) for Interpretable Time-Frequency Analysis." *Biometrics*. In Press.
2. \*Zhang J, Siegle G, Sun T, D'Andrea W, **Krafty RT** (2021+) "Interpretable Principal Components Analysis for Multilevel Multivariate Functional Data." *Biostatistics*. In Press.

3. \*Li Z, Rosen O, Ferrarelli F, **Krafty RT** (2021) “Adaptive Spectral Analysis of High-dimensional Nonstationary Time Series.” *Journal of Computational and Graphical Statistics*. **30**(3):794-807.
4. \*Bruce SA, Tang CY, Hall MH, **Krafty RT** (2020) “Empirical Frequency Band Analysis of Nonstationary Time Series.” *Journal of the American Statistical Association*. **115**(532):1993-1945.
5. \*Ding, T, Cohen AD, O’Connor EE, Karim H, Crainiceanu A, Muchelli J, Lopez OL, Klunk WE, Aizenstein HJ, **Krafty RT**, Crainiceanu CM, Tudorascu DL. (2020) “An Improved Algorithm of White Matter Hyperintensity Detection in Elderly Adults. *Neuroimage Clinical*. **25**:102151.
6. \*Beer JC, Aizenstein HJ, Anderson SJ, **Krafty RT** (2019) “Incorporating Prior Information with Fused Sparse Group Lasso: Application to Prediction of Clinical Measures from Neuroimages.” *Biometrics*. **75**(4):1299-1209.
7. **Krafty RT**, Fu H, Graves JL, Bruce SA, Hall MH, Smagula SF (2019) “Measuring Variability in Rest-Activity Rhythms from Actigraphy with Application to Characterizing Symptoms of Depression.” *Statistics in Biosciences*. **11**:314-333.
8. \*Li Z, **Krafty, RT** (2019) “Adaptive Bayesian Time-Frequency Analysis of Multivariate Time Series.” *Journal of the American Statistical Association*. **114**(525): 453-465.
9. \*Bruce SA, Hall MH, Buysse DJ, **Krafty RT** (2018) “Conditional Adaptive Bayesian Spectral Analysis of Nonstationary Biomedical Time Series.” *Biometrics*. **74**(1): 260-269.
10. **Krafty RT**, Rosen O, Stoffer DS, Buysse DJ, Hall M (2017) “Conditional Spectral Analysis of Replicated Multiple Time Series with Application to Nocturnal Physiology.” *Journal of the American Statistical Association*. **112**(520): 1405-1416.
11. \*Gilbert E, **Krafty RT**, Bleicher R, Egleston B (2017) “On Justifying the Use of Summary Comorbidity Measures for Health Services Research.” *Health Services & Outcomes Research Methodology*. **17**(4), 237-255.
12. He F, Mazumdar S, Tang G, Bhatia T, Anderson SJ, Dew MA, **Krafty RT**, Nimagonkar V, Deshpande S, Hall MH, Reynolds III, CF (2017) “Nonparametric MANOVA Approaches for Non-Normal Multivariate Outcomes with Missing Data.” *Communications in Statistics*. **46**(14): 7188-7200.
13. **Krafty RT** (2016) “Discriminant Analysis of Time Series in the Presence of Within-Group Spectral Variability” *Journal of Time Series Analysis*. **37**: 435-450.
14. \*Rothenberger SD, **Krafty RT**, Milligan B, Buysse DJ, Thayer JF, Kravitz HM, Buysse ED, Hall MH (2015) “Time-Varying Correlations between Slow Wave Sleep and Heart Rate Variability in Midlife Women: The SWAN Sleep Study.” *Psychophysiology*. **52**: 572-584.
15. **Krafty RT**, Zhao M, Buysse DJ, Thayer J, Hall MH (2014) “Spectral Analysis of Heart Rate Variability through Penalized Sum-of-Squares.” *Statistics in Medicine*. **33**: 1383-1394.
16. **Krafty RT**, Collinge WO (2013) “Penalized Multivariate Whittle Likelihood for Power Spectrum Estimation.” *Biometrika*. **100**: 447-458.

17. **Krafty RT**, Hall MH (2013) “Canonical Correlation Analysis Between Time Series and Static Outcomes, with Application to the Spectral Analysis of Heart Rate Variability” *Annals of Applied Statistics*. **7**: 570-587.
18. **Krafty RT**, Xiong S, Stoffer DS, Buysse DJ, Hall MH (2012) “Enveloping Spectral Surfaces: Covariate Dependent Spectral Analysis of Categorical Time Series.” *Journal of Time Series Analysis*. **33**: 797-806.
19. Park T, **Krafty RT**, Sanchez AI (2012) “Bayesian Semi-Parametric Analysis of Change-Point Regression Models: Application to Policy Making in Cali, Colombia.” *Journal of Applied Statistics*. **39**: 2285-2298.
20. **Krafty RT**, Hall MH, Guo W (2011) “Functional Mixed Effects Spectral Analysis.” *Biometrika*. **98**: 583-598.
21. **Krafty RT**, Gimotty PA, Cookous G, Holtz DO, Guo W (2008) “Varying-Coefficient Model with Unknown Within-Subject Covariance for the Analysis of Tumor Growth Curves.” *Biometrics*. **64**, 1023-1031.

**Collaborative:**

22. \*Gerlach A, Karim H, Kazan J, Aizenstein H, **Krafty RT**, Andreescu A (2021+) “Networks of Worry – Towards a Connectivity-Based Signature of Late-Life Worry Using Higher Criticism.” *Translational Psychiatry*. In Press.
23. Bowman MA, Kline CE, Buysse DJ, Kravitz HM, Joffe H, Matthews KA, Bromberger JT, Roecklein K.A, **Krafty RT**, Hall MH (2021+). “Longitudinal Association between Depressive Symptoms and Multidimensional Sleep Health: The Study of Women’s Health Across the Nation Sleep Study.” *Annals of Behavioral Medicine*. In Press.
24. Smagula SF, Karin HT, Ibrahim TS, **Krafty RT**, Stahl ST, Rodakowski J, Reynolds III CF, Hall MH, Aizenstein HJ. (2021+) “Resting-State Functional Connectivity Associated with Being a ‘Morning-Type’ Dementia Caregiver and Having Lower Depression Symptom Severity.” *Journal of Gerontology, Series B*. In Press.
25. Kato K, Shin YJ, Palumbo S, Papageorgiou I, Hahn S, Irish J, Rounseville S, **Krafty RT**, Wollin L, Sauler M, Hecker L (2021+) “Leveraging Aging Models of Pulmonary Fibrosis; The Efficacy of Nintedanib in Aging.” *European Respiratory Journal*. In Press.
26. Smagula SF, Hasler B, Schulz R, Graves JL, Reynolds CF, Aizenstein HJ, Buysse DJ, **Krafty RT**, Hall MH. (2021+) “Activity Patterns Related to Depression Symptoms in Stressed Dementia Caregivers.” *International Psychogeriatrics*. In Press.
27. \*Mani A, Santini T, Puppala R, Dahl M, Venkatesh S, Walker E, Dehaven M, Isitan C, Ibrahim TS, Wang L, Zhang T, Gong E, Barrios-Martinez J, Yeah F-C, **Krafty RT**, Mettenburg JM, Xia Z. (2021+) “Applying Deep Learning to Accelerated Clinical Brain Magnetic Resonance Imaging for Multiple Sclerosis.” *Frontiers Neurology*. In Press.

28. Noorbakhsh K, Zuckerbraun NS, Manole MD, Williams A, Langhan J, Wu L, **Krafty RT**, Furtado A. (2021+) "Management and Outcomes of Spontaneous Pneumomediastinum in Children." *Pediatric Emergency Care*. In Press.
29. Tung I, **Krafty RT**, Delcourt ML, Melhem NM, Jennings JR, Keenan K, Hipwell AE (2021) "Cardiac Vagal Control in Response to Acute Stress during Pregnancy: Associations with Life Stress and Emotional Support." *Psychophysiology*. **58**(6): e13808.
30. Karim HT, Ly M, Yu G, **Krafty RT**, Tudorascu DL, Aizenstein HJ (2021) "Aging Faster: Worry and Ruination in Late Life Are Associated with Greater Brain Age." *Neurobiology of Aging*. **101**: 13-21.
31. Williams PC, **Krafty RT**, Alexander T, Davis Z, Gregory A-V, Proby R, Toxel W, Coutts C. (2021) "Greenspace Redevelopment, Residential Displacement, and Sleep Quality among Black Adults in Southwest Atlanta." *Journal of Exposure Science and Environmental Epidemiology*. 1-15.
32. Smagula SF, Capps CS, **Krafty RT** (2021) "Evaluating the Timing of Differences in Activity Related to Depression Symptoms across Adulthood in the United States." *Journal of Affect Disorders*. **284**: 64-68.
33. Hutchins F, **Krafty RT**, El Khoudary SR, Catov J, Colvin A, Barinas-Mitchell E, Brooks M (2021) Gestational weight gain and long-term maternal obesity risk: A multiple bias analysis. *Epidemiology*. **32**(2): 248-258.
34. Graves JL, Qiao Y, Moored KD, Boudreau RM, Venditti EM, **Krafty RT**, Shiroma EJ, Harezlak J, Gynn NW (2021) "Profiles of Accelerometry-derived Physical Activity are Related to Perceived Physical Fatigability in Older Adults." *Sensors*. **21**(5):1718.
35. Taylor BJ, Bowman MA, Brindle A, Hasler BP, Roecklein KA, **Krafty RT**, Matthews KA and Hall MH. (2020) "Evening Chronotype, Alcohol Use Disorder Severity, and Emotion Regulation in College Students." *Chronobiology International*. **37**(12):1725-1735.
36. Bowman MA, Brindle RC, Joffe H, Kline CE, Buysse DJ, Appelhans BM, Kravitz HM, Matthews KA, Neal-Perry GS, Krafty RT and Hall MH. (2020). "Multidimensional Sleep Health is Not Cross-Sectionally or Longitudinally Associated with Adiposity in the Study of Women's Health Across the Nation." *Sleep Health*. **6**(6):790-796.
37. Kubala AG, Buysse DJ, Brindle RC, Krafty RT, Thayer JF, Hall MH and Kline CE. (2020) "The Association between Physical Activity and a Composite Measure of Sleep Health." *Sleep & Breathing*. **24**: 1207-1214.
38. Smagula SF, Stahl ST, Santini T, Banihashemi L, Hall MH, Ibrahim TS, Reynolds CF, **Krafty RT**, Aizenstein HJ, Zhan L. (2020) "White Matter Integrity Underlying Depressive Symptoms in Dementia Caregivers." *American Journal of Geriatric Psychiatry*. **28**(5): 578-582.
39. Tung I, Chung T, **Krafty RT**, Keenan KE, Hipwell AE. (2020) "Alcohol Use Trajectories Before and After Pregnancy Among Adolescent and Young Adult Mothers." *Alcoholism: Clinical and Experimental Research*. **44**(8): 1675-1685.

40. McCormick MC, Sharp E, Kalpathi R, Zullo J, Gurtunca N, Zhang J, Krafty RT, Raman S. (2020) "Hyperglycemia Requiring Insulin during ALL Induction Chemotherapy Associated with Increased Adverse Outcomes and Healthcare Costs." *Pediatric Blood & Cancer*. **67**(9): e28475.
41. Andreescu C, Ajilore O, Aizenstein HJ, Albert K, Butters MA, Landman BA, Karim HT, **Krafty RT**, Taylor WD. (2019) "Disruption of Neural Homeostasis as a Model of Relapse and Recurrence in Late-Life Depression." *American Journal of Geriatric Psychiatry*. **27**(12):1316-1330.
42. Bowman MA, Duggan KA, Brindle RC, Kline CE, **Krafty RT**, Thayer JF, Hall MH (2019). "Prospective Associations among Objectively and Subjectively Assessed Sleep and the Metabolic Syndrome." *Sleep Medicine*. **58**: 1-6.
43. Smagula S, Gujral S, Capps C, **Krafty RT** (2019). "A Systematic Review of Evidence for a Role of Rest-Activity Rhythms in Dementia." *Frontiers in Psychiatry*. **10**:78.
44. Antony AR, Abramovici S, **Krafty RT**, Pan J, Richardson M, Bagic A, Haneef Z (2019) "Simultaneous Scalp EEG Improves Seizure Laterization During Unilateral Intracranial EEG Evaluation in Temporal Lobe Epilepsy." *Seizure*. **64**: 8-15.
45. Smagula SF, **Krafty RT**, Thayer JF, Buysse DJ, Hall MH. (2018) "Rest-Activity Rhythm Profiles Associated with Manic-Hypomanic and Depressive Symptoms." *Journal of Psychiatric Research*. **102**: 238-244.
46. Smagula SF, DuPont CM, Miller MA, **Krafty RT**, Hasler BP, Franzen PL, Roecklein KA (2018) "Rest-Activity Rhythms Characteristics and Seasonal Changes in Seasonal Affect Disorder." *Chronobiology International*. **35**(11): 1553-1559.
47. Brindle RC, Duggan KA, Cribbet MR, Kline CE, **Krafty RT**, Thayer JF, Mulukulata SR, Hall MH. (2018) "Cardiovascular Stress Reactivity and Carotid Intima-Media Thickness: The Buffering Role of Slow-Wave Sleep." *Psychosomatic Medicine*. **80**(3): 301-306.
48. Brindle, R, Cribbet, M, Samuelsson, L, Gao, C, Frank, E, **Krafty, RT**, Thayer, J, Buysse, DJ, Hall, MH (2018) "The Relationship between Childhood Trauma and Poor Sleep Health in Adulthood." *Psychosomatic Medicine*. **80**(2): 200-207.
49. Gedela S, Sitwat, B Welch WP, **Krafty RT**, Sogawa Y. (2018) "The Effects of Vagus Nerve Stimulator in Controlling Status Epilepticus in Children." *Seizure*. **55**(1): 66-69.
50. Abramovici S, Antony A, Baldwin ME, Urban A, Ghearing G, Pan J, Hendrickson R, Plummer C, Sun T, **Krafty RT**, Richardson RM, Bagic A (2018) "Features of Simultaneous Scalp and Intracranial EEG that Predict Localization of Ictal Onset Zone." *Clinical EEG & Neuroscience*. **49**(3): 206-212.
51. Smagula S, **Krafty RT**, Taylor B, Martire L, Schulz R, Hall MH (2017) "Rest-Activity Rhythm and Sleep Characteristics Associated with Depression Symptom Severity in Strained Dementia Caregivers." *Journal of Sleep Research*. **26**(6), 718-725.
52. Kline CE, **Krafty RT**, Mulukulata SR, Hall MH (2017) "Associations of Sedentary Time and Moderate-Vigorous Physical Activity with Sleep-Disordered Breathing and Polysomnographic Sleep in Community-Dwelling Adults." *Sleep and Breathing*. **21**(2), 427-434.

53. Market Velker BA, Denomme MM, **Krafty RT**, Mann MRW (2017) "Maintenance of Mest Imprinted Methylation in Blasocyst-Stage Mouse Embryos is Less Stable than Other Imprinted Loci Following Superovulation or Embryo Culture." *Environmental Epigenetics*. **3**(3): dvx015, 1-12.
54. Hall MH, Mulukutla S, Kline CE, Samuelsson LB, Taylor B, **Krafty RT**, Thayer J, Frank E, Kupfer D (2017) "Objective Sleep Duration is Prospectively Associated with Endothelial Health." *Sleep*. **40**(1): 1-9.
55. Samuelson LB, Hall MH, Ranganjan AA, **Krafty RT**, Buysse DJ, Strollo PJ, Kravitz HM, Zheng H, Shimada K (2017) "Support Vector Machines for Automated Snoring Detection: Proof-of-Concept." *Sleep and Breathing*. **21**(1): 119-133.
56. Mauer LA, Bass SB, Ye D, Benitez J, Mazzella S, **Krafty RT** (2016) "Trend Analysis of Users of a Syringe Exchange Program in Philadelphia, Pennsylvania: 1999-2014." *AIDS and Behavior*. **20**: 2922-2932.
57. Hall MH, Casement MD, Troxel WM, Matthews KA, Bromberger J, Kravitz HM, **Krafty RT**, Buysse DJ (2015) "Chronic Stress is Prospectively Associated with Sleep in Midlife Women: The SWAN Sleep Study." *Sleep*. **38**: 1645-1654.
58. Taylor BJ, Irish LA, Martire LM, Siegle GJ, **Krafty RT**, Schulz R, Hall MH (2015) "Avoidant Coping and Poor Sleep Efficiency in Dementia Caregivers." *Psychosomatic Medicine*. **77**: 1050-1057.
59. Irish LA, Kline CE, Rothenberger SD, **Krafty RT**, Buysse DJ, Kravitz HM, Bromberger JT, Zheng H, Hall MH (2014) "A 24-hour Approach to the Study of Health Behaviors: Temporal Relationships between Waking Health Behaviors and Sleep." *Annals of Behavioral Medicine*. **14**: 187-197.
60. Sanchez AI, **Krafty RT**, Puyana JC, Gutierrez MI (2013) "Football Events and their Association with Interpersonal Violent Deaths in Cali, Colombia." *Panamerican Journal of Trauma, Critical Care and Emergency Surgery*. **2**: 26-32.
61. Kline CE, Irish LA, **Krafty RT**, Sternfeld B, Kravitz HM, Buysse DJ, Bromberger JT, Dugan SA, Hall MH (2013) "Consistently High Sports/Exercise Activity is Associated with Better Sleep Quality, Continuity, and Depth in Midlife Women: The SWAN Sleep Study." *Sleep*. **36**: 1279-1288.
62. Hall MH, Middleton K, Thayer JF, Lewis TT, Kline CE, Matthews KA, Kravitz HM, **Krafty RT**, Buysse DJ (2013) "Racial Differences in Heart Rate Variability During Sleep: The SWAN Sleep Study". *Psychosomatic Medicine*. **75**: 783-790.
63. Hasler BP, Germaine A, Nofzinger EA, Kupfer DJ, **Krafty RT**, Rothenberger SD, James JA, Bi W, Buysse DJ (2012) "Chronotype and Diurnal Patterns of Positive Affect and Affective Neural Circuitry in Primary Insomnia." *Journal of Sleep Research*. **21**: 515-526.
64. Israel B, Buysse DJ, **Krafty RT**, Beagley A, Miewald J, Hall MH (2012) "Short-term Stability of Sleep and Heart Rate Variability in Good Sleepers and Patients with Insomnia: For Some Measures, One Night Is Enough." *Sleep*. **35**: 1285-1291.

65. Sanchez AI, **Krafty RT**, Weiss HB, Rubian AM, Peitzman AB, Puyana JC (2012) “Trends in Survival and Early Functional Outcomes from Hospitalized Severe Adult Traumatic Brain Injuries, Pennsylvania, US, 1998-2007.” *Journal of Head Trauma Rehabilitation*. **27**: 159-169.
66. Siewiorek GM, **Krafty RT**, Wholey MH, Finol EA (2011) “The Association of Clinical Variables and Filter Design with Carotid Artery Stenting Thirty-Day Outcome.” *The European Journal of Vascular and Endovascular Surgery*. **42**: 282-291.
67. Sanchez AI, Villaveces A, **Krafty RT**, Park T, Weiss HB, Fabio A, Puyana JC, Gutierrez-Martinez MI (2011). “Policies for Alcohol Restrictions and Their Effects on Interpersonal Violence Deaths: A Time-Series Analysis of Homicides in Cali, Colombia.” *International Journal of Epidemiology*. **40**: 1037-1046.
68. Okun ML, **Krafty RT**, Monk T, Reynolds III CF, Buysse DJ, Begley A, Hall MH (2010) “What Constitutes too Long of a Delay? Determining the Cortisol Awakening Response (CAR) Using Self-Report and PSG-Assessed Wake Time.” *Psychoneuroendocrinology*. **35**: 460-468.
69. Wiebe DJ, **Krafty RT**, Kopper CS, Nance ML, Elliott MR, Branas CC (2009) “Homicide and Geographic Access to Gun Dealers in the United States.” *BMC Public Health*. **9**: 199.
70. Holtz DO, **Krafty RT**, Zhang L, Alagkiozidis I, Courrèges MC, Chu CS, Leiby B, Benencia F, Guo W, Gimotty PA, Coukos G. (2008) “Should Tumor VEGF Expression Influence Decisions on Combining Low-Dose Chemotherapy with Antiangiogenic Therapy?” *Journal of Translational Medicine*. **6**: 2.
71. Orsini JA, Parsons CS, **Krafty RT**, Capewell L, Boston R (2007) “Risk Factors for Acute Laminitis in Horses during Hospitalization: 73 cases (1997-2004).” *Journal of the American Veterinary Association*. **6**, 885-889.

**Funding:**

**Current:**

R01GM113243 (Krafty) NIGMS A Statistical Framework for the Spectral Analysis of High-Dimensional Physiological Time Series Signals	8/10/2014 - 5/31/2022 \$245,898	4.20 calendar month
R01MH115922 (Scott) NIMH Multimodal Assessment of Near-Term Risk Factors for Suicide	1/1/2019 - 12/31/2024 \$79,423 sub only	0.60 calendar month
R01EB028248 (Huppert) NIBIB Brain AnalyzIR: A software platform for improving scientific rigor in functional NIRS statistical analysis	8/1/2019 – 4/30/2023 \$336,726	0.84 calendar month
R01MH116943 (Young) NIMH Using fMRI of Autobiographical Memory Recall to Determine Risk and Resilience Endophenotypes	4/1/2019 – 3/31/2024 \$58,239 sub only	0.60 calendar month

in Familial Major Depressive Disorder

R21MH119543 (Ferrarelli) 4/1/2019 – 3/31/2021 0.60 calendar month  
 NIMH \$50,000  
 Reduced Natural Oscillatory Frequency of DLPFC in Early Course SCZ: a TMS/EEG Study

R01MH118270 (Stahl) 8/23/2019 – 5/31/2024 1.20 calendar month  
 NIMH \$445,778  
 Efficacy of a Healthy Lifestyle Intervention to Reduce Depression in Older Spousally-bereaved Adults

R01GM140476 (Bruce) 9/1/2020 – 8/31/2024 1.80 calendar month  
 NIGMS  
 Adaptive Frequency Band Estimation and Analysis

R01AT011267 (Fani) 2/1/2021 – 1/31/2026 0.6 calendar month  
 NIMH \$445,778  
 Neural Mechanisms of Vibroacoustically Augmented Breath Focused Mindfulness For Dissociative Traumatized People

**Completed:**

DMS-0805050 (PI, Stoffer; Co-PI Krafty) 7/1/08 – 6/30/13 2.00 calendar month  
 NSF \$319,999  
 Statistical Methods for Dependent Data

R01HL1104607 (Hall, Martica) 8/1/10-7/30/15 1.20 calendar month  
 NIH \$457,551  
 Sleep: a Novel Pathway Linking Major Depression and Cardiovascular Disease

P01AG020677 (Monk) 5/1/10-6/30/15 1.20 calendar month  
 NIH \$1,249,768  
 Aging Well, Sleeping Efficiently

R01AG019362 (Hall) 5/1/10-4/30/11 1.00 calendar month  
 NIH \$489,182  
 SWAN Sleep Study

R01MH096334 (Siegle) 9/1/12 – 5/31/18 0.60 calendar month  
 NIH \$503,312  
 Blunted and Discordant Affect: A Transdiagnostic Construct in Psychopathology

R01AI127472 (Harris) 9/26/16 – 8/31/18 0.90 calendar month  
 NIH \$350,000  
 Whole Genome Sequencing Enhanced Detection System for Healthcare-Associated Transmission

UL1TR001857 (Reis) 7/1/2016 - 6/31/2019 2.40 calendar month  
 NCATS \$11,433,099  
 University of Pittsburgh Clinical and Translational Sciences Institute: Research Methods (BERD) Component



R01AG047139 (Buysse/Hall) NIA Sleep, Circadian Rhythms, and Cardiometabolic Risk in Retired Shift Workers	7/1/2015 - 10/31/2019 \$392,745	0.60 calendar month
RG16 (Puwanant) Muscular Dystrophy Association Sub-regional Body Composition and Clinical Endpoints in Myotonic Dystrophy	2/1/2017 - 1/31/2020 \$35,262 sub only	0.60 calendar month
DoD #W81XWH1920012 (Wagner) State Univ. of New York / DoD Biomarker-Based Precision Medicine Approach to Traumatic Brain Injury Subphenotypes	5/1/2019 – 9/1/2020 \$52,324 (sub only)	0.60 calendar month
W81XWH-18-1-0736 (Wagner) Department of Defense Epidemiological Characterization and Prognostic Models for PTE: A Collaborative TBI-MS and VHA Study	9/15/2018 – 9/14/2020 \$403,536	0.36 calendar month
UG3OD023244 (Hipwell/Keenan) NIH Preconception Stress Exposure: Impact on Pregnancy and Offspring Neurodevelopment	7/1/2016 - 8/31/2020 1,148,480	1.20 calendar month
R61MH115927 (Young) NIMH Amygdala rtfMRI Neurofeedback for Treatment Resistant Depression	1/1/2019 - 8/31/2020 \$433,905	0.48 calendar month

### **Invited and Plenary Presentations:**

Marquette University, Department of Mathematical Sciences	11/19/2021
Georgia CTSA Annual Workshop	10/22/2021
Georgia Statistics Day	10/11/2021
National University of Singapore, Department of Statistics	10/6/2021
ASA's Statistical Methods in Imaging Conference, Atlanta, Georgia	5/20/2021
EUSleep, Atlanta, Georgia	10/30/2020
University of Pittsburgh, Department of Biostatistics	10/8/2020
AMS Central Sectional Meeting, El Paso, TX	9/12/2020
Baruch College, Department of Information Science & Statistics	3/10/2020
Emory University, Department of Biostatistics and Bioinformatics	2/20/2020
CMStatistics, London, UK	12/17/2019
Statistics & Data Science Workshop, KAUST, Thuwal, Saudi Arabia	11/19/2019
University of South Carolina, Department of Statistics	10/31/2019
University of California Los Angeles, Department of Biostatistics	10/16/2019
JSM, Denver, CO	7/31/2019
Emory University, Department of Biostatistics and Bioinformatics	4/4/2019
CMStatistics, Pisa, Italy	12/17/2018
George Mason University, Department of Statistics	11/9/2018
University of Illinois, Chicago, Division of Epidemiology and Biostatistics	11/2/2018

Virginia Commonwealth University, Department of Biostatistics	9/21/2018
ICSA Applied Statistics Symposium, New Brunswick, NJ	6/14/2018
Institute for Mathematics and its Applications, Minneapolis, MN	2/21/2018
CMStatistics, London, UK	12/17/2017
University of Minnesota, Department of Biostatistics	10/18/2017
Indiana University School of Medicine, Department of Biostatistics	8/25/2017
ISI World Statistics Congress, Marrakech, Morocco	7/20/2017
International Conference on Computational Statistics, Oviedo, Spain	8/23/2016
JSM, Chicago, IL	7/30/2016
ICSA Applied Statistics Symposium, Atlanta, GA	6/14/2016
IASC: Statistical Computing for Data Science, Buzios, Brazil	8/2/2015
ISI World Statistics Congress, Rio De Janeiro, Brazil	7/27/2015
University of Texas, El Paso, Department of Mathematical Sciences	4/17/2015
University of Pittsburgh, Department of Biostatistics	1/22/2015
University of Pennsylvania, Division of Biostatistics	12/9/2014
Thomas Jefferson University, Division of Biostatistics	11/6/2014
NBER/NSF Annual Time Series Conference, St. Louis, MO	9/27/2014
University of Missouri, Department of Statistics	9/25/2014
ENAR Spring Meeting, Baltimore, MD	3/17/2014
ICSA Winter Meeting, Hong Kong	12/20/2013
Temple University, Department of Statistics	11/1/2013
Columbia University, Division of Biostatistics (Psychiatry)	10/15/2013
JSM, Montreal, Quebec	8/6/2013
Fox Chase Cancer Center	2/25/2013
Temple University, Department of Statistics	2/24/2013
ENAR Spring Meeting, Orlando, FL	3/10/2013
NBER/NSF Annual Time Series Conference, College Station, TX	10/26/2012
Temple University, Department of Statistics	10/19/2012
University of Pennsylvania, Division of Biostatistics	11/8/2011
Clarkson University, Department of Mathematics	10/13/2011
JSM, Vancouver, BC	8/2/2010
WNAR Annual Meeting, Seattle, WA	6/19/2010
Conference on Nonparametric Statistics and Learning, Columbus, OH	5/21/2010
ENAR Spring Meeting, New Orleans, LA	3/22/2010
Brown University, Center for Statistical Science	9/12/2009
University of Pittsburgh, Department of Biostatistics	9/10/2009
Meeting of the Classification Society	6/12/2009
Penn State University, Department of Statistics	2/8/2009
ENAR Spring Meeting, Washington, DC	3/23/2008
University of Wisconsin, Departments of Biostatistics and Statistics	2/28/2007
University of Pittsburgh, Department of Statistics	2/19/2007
George Washington University, Department of Statistics	2/13/2007
University of Florida, Department of Biostatistics	2/6/2007
Harvard School of Medicine	2/2/2007
The Ohio State University, Department of Biostatistics	2/1/2007
Virginia Commonwealth University, Departments of Biostatistics	11/3/2006
JSM, Seattle, WA.	8/9/2006
ENAR Spring Meeting, Tampa, FL.	3/27/2006
University of Pennsylvania, Division of Biostatistics	2/14/2006

### **Honors and Awards:**

Philips Innovation Grand Challenge	2016
D. Raghavarao Publication Award	2014
Award for High Achievement in Sponsored Projects, Fox School	2014
Saul Winegrad Award	2008
ENAR Travel Award	2006
University of Pennsylvania's Award for Outstanding Teaching	2002
Barry Goldwater Scholarship	1999
Phi Beta Kappa	1998

### **Student Supervision:**

#### **PhD Dissertation Advisor:**

##### **Current:**

Haoyi Fu – Biostatistics, University of Pittsburgh	2019-Present
Gehui Zhang – Biostatistics, University of Pittsburgh	2020-Present

##### **Past (Current affiliation):**

Scott Rothenberger - Statistics, University of Pittsburgh (Assistant Professor of Medicine, University of Pittsburgh)	2014
Elizabeth Gilbert - Statistics, Temple University (Assistant Professor of Mathematics, Worcester State University)	2016
Scott Bruce - Statistics, Temple University (Assistant Professor of Statistics, Texas A&M University)	2018
Zeda Li - Statistics, Temple University (Assistant Professor of Statistics, Baruch College, CUNY)	2018
Joanne Beer – Biostatistics, University of Pittsburgh (Post-Doc, Biostatistics, University of Pennsylvania)	2018
Marie Tuft – Biostatistics, University of Pittsburgh (R&D Statistician, Sandia National Labs)	2020
Jun Zhang – Biostatistics, University of Pittsburgh (Biostatistician, Takeda Pharmaceutical)	2020
Terry Ding - Biostatistics, University of Pittsburgh (Applied Scientist, Amazon Web Services)	2020

#### **MS Thesis Advisor:**

##### **Past (Current Affiliation):**

Clair Smith - Biostatistics, University of Pittsburgh (Biostatistician, Department of Orthopedic Surgery, University of Pittsburgh)	2017
Wendy He - Biostatistics, University of Pittsburgh (Data Analyst, School of Pharmacy, University of Pittsburgh)	2017
Sunny Zhao - Biostatistics, University of Pittsburgh (Value Engineering Data Analyst, The Rainmaker Group)	2017
Jessica Graves - Biostatistics, University of Pittsburgh (Statistician, Center for Circadian Science, University of Pittsburgh)	2018
Jianhui Zhu - Biostatistics, University of Pittsburgh (Statistician, UPMC Heart and Vascular Institute)	2019
Chandler Capps - Biostatistics, University of Pittsburgh (Statistical Consultant, Pittsburgh)	2020

Ashika Mani – Biostatistics, University of Pittsburgh 2021  
(PhD Student, Biostatistics, University of Pennsylvania)

**PhD Committee Member:**

**Current:**

Laura Samuelsson - Psychology, University of Pittsburgh 2016-Present  
Sharon Toth – Anthropology, University of Pittsburgh 2019-Present  
Yuna Kim – Biostatistics, Drexel University 2020-Present

**Past:**

Seo Hyon Baik - Statistics, University of Pittsburgh 2010  
Dongli Zhou - Statistics, University of Pittsburgh 2010  
Mengyuan Zhao - Statistics, University of Pittsburgh 2010  
Gail Sieworek – Bioengineering, Carnegie Mellon University 2010  
Nan Zhou - Statistics, University of Pittsburgh 2011  
Jonathan Livengood – History & Philosophy of Science, University of Pittsburgh 2011  
Zhigang Yao - Statistics, University of Pittsburgh 2011  
Hyewook Jeong - Statistics, University of Pittsburgh 2012  
Qi Zhang - Statistics, University of Pittsburgh 2013  
Fanying He - Biostatistics, University of Pittsburgh 2013  
Ken-Hsien Chuang – Mathematics, University of Pittsburgh 2014  
Yanyan Li – Statistics, Temple University 2014  
Alvaro Sanchez - Clinical & Translational Science, University of Pittsburgh 2015  
Jing Xiao – Statistics, Temple University 2015  
Ke Huang – Statistics, Temple University 2015  
Andrew Gehman – Statistics, Temple University 2015  
Andrew Potter – Biostatistics, University of Pittsburgh 2016  
Masaki Lin - Biostatistics, University of Pittsburgh 2017  
Brianna Taylor – Psychology, University of Pittsburgh 2017  
Charles Ma – Biostatistics, University of Pittsburgh 2018  
Brian Rooks – Statistics, University of Pittsburgh 2018  
Yingyuan Li – Biostatistics, University of Pittsburgh 2019  
Li Zhu – Biostatistics, University of Pittsburgh 2019  
Chen Gong – Statistics, University of Pittsburgh 2019  
Franya Hutchins – Epidemiology, University of Pittsburgh 2020  
Rawan Rupnow – Biostatistics, University of Illinois, Chicago 2020  
Yue Wang – Biostatistics, University of Illinois, Chicago 2020  
Xuetong Zhang – Bioengineering, University of Pittsburgh 2020  
Nemin Chen – Epidemiology, University of Pittsburgh 2021

**PhD External Reader:**

Jayabrata Biswas – Applied Statistics, Indian Statistical Institute 2019

**Masters Committee Member:**

**Past:**

Matthew Loiacono – Biostatistics, University of Pittsburgh 2018  
Joya Peterson – Genetic Counseling, University of Pittsburgh 2018

Shen Liu – Biostatistics, University of Pittsburgh	2018
Kexin Guo – Biostatistics, University of Pittsburgh	2018
Tian He – Biostatistics, University of Pittsburgh	2018
Jocelyn Mineo - Biostatistics, University of Pittsburgh	2019
Kristina Boyd – Biostatistics, University of Pittsburgh	2019
Xinying Liu – Epidemiology, University of Pittsburgh	2019

**Academic Advisor:**

Kendra Bobby - Biostatistics, University of Pittsburgh	2016-2019
Liwen Wu – Biostatistics, University of Pittsburgh	2017-2018

**Graduate Internship Supervisor:**

Zhigang Yao (Pitt Statistics)	2008
Linghui Lu (Temple Statistics)	2014
Yujuan Cai (Temple Statistics)	2014–2015
Du Ye (Temple Statistics)	2014–2015
Jianyun Zhu (Temple Statistics)	2014–2015

**Undergraduate Honors Thesis Committee Member:**

Julia Gong – Psychology, University of Pittsburgh	2017-2018
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**High School Mentoring:**

Scott Sobel – Junior, Taylor Allderdice High School	2018-2019
Audrey Leong – Senior, Taylor Allderdice High School	2019-2020

**Junior Researcher Mentorship:**

**Post-Doc Primary Advisor:**

Andrew Gerlach – Psychiatry and Biostatistics, University of Pittsburgh	2019-Present
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**Post-Doc Statistical Mentor:**

Christopher Kline – Psychiatry, University of Pittsburgh	2010-2013
Leah Irish – Psychiatry, University of Pittsburgh	2011-2013
Ryan Brindle – Psychiatry, University of Pittsburgh	2015-2018
Stephen Smagula – Psychiatry, University of Pittsburgh	2018-2017
H. Matthew Lehrer – Psychiatry, University of Pittsburgh	2019-present

**K-Award Co-Primary Mentor:**

Helmet Karim	2021-present
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**K-Award Mentoring Team Member:**

Stephen Smagula – Psychiatry, University of Pittsburgh	2017-present
Maria Pacella – Emergency Medicine, University of Pittsburgh	2019-present
Swathi Gujral – Psychiatry, University of Pittsburgh	2021-present
Irene Tung – Psychiatry, University of Pittsburgh	2021-present
Ida Fonkouné – Medicine, Emory University	2021-present

**Junior Faculty Mentor**

Lu Tang – Biostatistics, University of Pittsburgh	2018-2020
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## Professional Service:

### University of Pittsburgh:

PhD Admissions Committee	2019-2020
Co-Chair: Statistics in Psychiatry Search Committee	2019-2020
Aesthetics & Decor Committee	2018-2019
Internal Collaboration Committee	2018-2020
MS Admissions Committee	2018-2019
Biostatistics PhD Award Committee	2018-2020
Co-Chair: MPH Biostatistics Committee	2017-2018
Section Chair: Epidemiology Preliminary Committee	2017-2020
Chair Search Committee	2016-2017
Chair: Biostatistics Curriculum Committee	2015–2020
Biostatistics Facilities Committee	2015–2017
Health Care Policy Qualifying Exam	2012
Statistics Hiring Committee	2011
Mathematics Time Series Qualifying Exam	2009
Statistics Graduate Admission Committee	2009–2012
Statistics Qualifying Exam Committee	2008–2012
Statistics Seminar Coordinator	2008–2010

### Temple University:

Member, Fox Research Advisory Board	2013–2015
Chair, Graduate Affairs Committee, Department of Statistics	2013–2015
Coordinator, Statistics GenEd, STAT0827	2013–2015
Member, Fox School Vision & Mission Committee	2013–2014

### Statistics and Scientific Communities:

Associate Editor, the <i>American Statistician</i>	2020 - 2023
Ad Hoc Member – NIH SEP, Chronic Disease & Epidemiology	2020
Ad Hoc Member – NIH Study Section, BMRD	2018-2020 (7 times)
Reviewer – ENAR Student Paper Competition	2018-2020
Member – NIH Special Emphasis Panel, Methods & Measurements	2018 (2 times)
Lead & Organizing Judge, Intel International Science & Engineering Fair (ISEF)	2018
Reviewer – NSF Methodology, Measurement and Statistics	2018
Editorial Board – <i>Sleep</i>	2017 – Present
Organizer – ASA Conference on Statistical Methods in Imaging	2017
Member – NIH Special Emphasis Panel, BBBP	2017
Special Awards Judge - Intel International Science & Engineering Fair (ISEF)	2017
Associate Editor – <i>Statistics and Its Interface</i> (SII)	2016 - Present
Member – SLDM section of the ASA Award Panel	2015
Member – Joint NSF/NIGMS Panel in Mathematical Biology	2014
Organizer - ENAR session on High Dimensional Biomedical Time Series	2014
President-Elect - American Statistical Association, Pittsburgh Chapter	2012-2013
Regional Advisory Board Member – ENAR	2010-2012
Organizer – ENAR session on Spectral Analysis in Biomedical Studies	2010

External Advisory Board Member – NCI Training Program, UPenn	2008-2013
Data Safety Monitoring Board (DSMB) Member:	
PPower (PI: Sperry)	2018-2021
Stochastic Vibro-Tactile Stimulation (PI: Salsbury)	2017-2021
PAMPer (PI: Sperry)	2017-2018
Multilevel Models of Therapeutic Response in the Lungs (PI: Corcoran)	2016-2020
4-drug Nerve Block vs. Pain Local Anesthetic (PI: Williams)	2016-2020

Referee for: *Annals of Applied Statistics, Annals of Statistics, Biometrika, Communications in Statistics, Journal of the American Geriatrics Society, Journal of the American Statistical Association, Biometrics, IEEE Transactions on Biomedical Engineering, Electronics Journal of Statistics, Journal of Classification, Journal of Clinical Oncology, Journal of the Royal Statistical Society Series B, Journal of Time Series Analysis, Journal of Computational and Graphical Statistics, Neuroimage, Science, Statistics and its Interface, Statistics in Biosciences*

### **Teaching Experience:**

#### **Graduate Courses at Emory University:**

Statistical Practice I – BIOS 580

#### **Graduate Courses at the University of Pittsburgh:**

Bayesian Data Science – BIOS 2063

Introduction to Statistical Methods II – BIOS 2042

Introduction to Statistical Theory I – BIOS 2043

Special Studies – BOST 2021

Applied Statistical Methods I - STAT 2131

Applied Statistical Methods II - STAT 2132

Applied Advanced Time Series - STAT 2321

Advances in Applied Statistics: Functional Data Analysis - STAT 2391/2

Independent Study – STAT 2991

#### **Graduate Courses at Temple University:**

Independent Study – STAT 5182

Directed Study – STAT 9183

#### **Undergraduate Courses at the University of Pittsburgh:**

Basic Applied Statistics - STAT 200

#### **Undergraduate Courses at Temple University:**

Statistical Reasoning and Games of Chance - STAT 0827