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Ciprian M. Crainiceanu

PERSONAL DATA

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EDUCATION

2003	Ph.D., Statistics, Cornell University, USA
2002	M.S., Statistics, Cornell University, USA
1998	M.S., Applied Mathematics, University of Bucharest, Romania
1996	B.S., Mathematics, University of Bucharest, Romania

PROFESSIONAL EXPERIENCE

Official appointments

Sep. 2013 -	Professor (with tenure) Department of Biostatistics, Johns Hopkins University
Jan. 2009 - Sep. 2013	Associate Professor Department of Biostatistics, Johns Hopkins University
March 2004-Dec. 2008	Assistant Professor Department of Biostatistics, Johns Hopkins University
July 2003–Feb. 2004	Visiting Assistant Professor School of ORIE, Cornell University
Aug. 2000–June 2003	Research Assistant Department of Statistics, Cornell University
Oct. 1996–June 1999	Teaching Assistant University of Bucharest

Extended visits to other Departments

September- December 2015	Department of Statistics, North Carolina State University
August 2015	Statistical and Applied Mathematical Sciences Institute, NC
May 2009	Department of Statistics, University of Bristol, UK
May 2006	Department of Statistics, Ludwig-Maximilians Universität, Germany
September 2005	Department of Statistics, Texas A&M University
January 2005	Department of Statistics, University of Lancaster, UK

PROFESSIONAL ACTIVITIES

Review of proposals

NIH, 2020, Chair of the study section Member Conflict: Healthcare Delivery and Methodologies

NIH, 2017-2018, Chair of the study section on conflicts for Biostatistics

NIH, 2015-2017, Chair of the study section Biostatistical Methods and Research Design

NIH, 2012-2015, Co-chair of the study section Biostatistical Methods and Research Design

NIH, 2012-2018, member of the study section Biostatistical Methods and Research Design

NIH, June 2012, ad-hoc member of the study section Biostatistical Methods and Research Design

NIH, February 2012, Chair of the study section Multidisciplinary Healthcare Delivery Research AREA ZRG1 HDM-T (90) S

NIH, March 2012, mail reviewer for the study section Center for Scientific Review Special Emphasis Panel ZRG1 HDM-R (11) B

NIH, October 2011, Co-chair of the study section Healthcare Delivery and Methodologies ZRG1 HDM-T (90) S

NIH, October 2011, member of the study section Healthcare Delivery and Methodologies IRG [HDM] ZRG1 HDM-Q (54)

NIH, February 2011, member of the study section Special Emphasis Panel/Scientific Review Group 2011/05 ZRG1 HDM-G (02) M

NIH/CDC, June 2009, member of the study section Grants for Public Health Research – Dissertation (Panel H)

Editorial Activities

Associate editor for: Journal of the American Statistical Association Theory & Methods 2008-2010; Biometrics 2008-2012; Statistica Sinica 2008-2011

Referee for: Advances in Statistical Analysis, Annals of Applied Statistics; Annals of Statistics; Biometrika; Biostatistics; Biometrics; Canadian Journal of Statistics; Circulation; Clinical Trials; Environmental Science and Technology; Environmental Statistics; Environmetrics; International Journal of Biostatistics; Journal of American Statistical Association; Journal of Epidemiology; Journal of Computational Statistics and Data Analysis; Journal of Computational and Graphical Statistics; Journal of Royal Statistical Society; Journal of Statistical Planning and Inference; Journal of Neuroimaging; Journal of Nonparametric Statistics; NeuroImage; NeuroImage Clinical; Scandinavian Journal of Statistics; Statistica Sinica; Statistics and Computing; Statistical Science; Statistics in Medicine; Stroke, Technometrics; Test

Book reviewer for: Chapman-Hall; Springer Verlag

Memberships

American Statistical Association
The International Biometric Society

HONORS AND AWARDS

2019	12 th Annual Invited Lecture, UCSF Biostatistics and Bioinformatics
2017	Myrto Lefkopoulou Distinguished Lectureship Award: Harvard University
2014	Fellow of the American Statistical Association
2013	Cited for Teaching Excellence: JHU Bloomberg School of Public Health
2012	Cited for Teaching Excellence: JHU Bloomberg School of Public Health
2011	Cited for Teaching Excellence: JHU Bloomberg School of Public Health
2008	AMTRA: The Advising, Mentoring, and Teaching Award, JHU
2006	Gottfried F. Noether Junior Scholar Award, ASA.
2005	Faculty Innovation Award, Johns Hopkins University.
2002	Best overall student presentation Award, Albany Chapter, ASA.
1998	Eastern European young researcher TEMPUS Fellowship
1993-94	Eastern European student TEMPUS Fellowship
1992	National Mathematics Contest 'Gheorghe Titeica', 1st.
1992	National Mathematics Olympiad, 3rd.
1988-98	Emeritus Romanian National Fellowship.

PUBLICATIONS

Summary

Publications: 2 books, 200 peer-reviewed articles, 2 software packages

Citations – as determined by Google Scholar: 16737 total citations, 3600+ citations in 2020-2021

Research collaborators: 30+

Books

1. **Crainiceanu CM**, Goldsmith, J, Leroux, A, Cui, E. *Functional Data Analysis with R*, Chapman & Hall/CRC, 2024
2. Carroll RJ, Ruppert D, Stefanski, LA, **Crainiceanu CM**. *Measurement Error in Nonlinear Models: A Modern Perspective*, Chapman & Hall/CRC, 2006
3. **Crainiceanu CM**, Caffo B, Muschelli J. *Methods in Biostatistics with R*, Leanpub, <https://leanpub.com/biostatmethods>

Peer reviewed articles

Statistical methodology:

1. Leroux A, **Crainiceanu CM**. *Dynamic prediction using landmark historical functional Cox regression*, Journal of Computational and Graphical Statistics, 2024
2. Koffman L, **Crainiceanu CM**, Leroux A. *Walking fingerprinting*. Journal of Royal Statistical Society Series C Applied Statistics. 73(5):1221-1241, 2024
3. Cui E, Li R, **Crainiceanu CM**, Xiao L. *Fast Multilevel Functional Principal Component Analysis*. Journal of Computational and Graphical Statistics. 32(2):366-377, 2023
4. Sergazinov R, Leroux A, Cui E, **Crainiceanu CM**, Aurora RN, Punjabi NM, Gaynanova I. *A case study of glucose levels during sleep using multilevel fast function on scalar regression inference*. Biometrics, 2023
5. R. Li, L. Xiao, E. Smirnova, E. Cui, A. Leroux, **Crainiceanu CM**. *Fixed-effects inference and tests of correlation for longitudinal functional data*, Statistics in Medicine, 41(17): 3349-3364, 2022
6. Cui E, Leroux A, Smirnova E, **Crainiceanu CM**. *Fast Univariate Inference for Longitudinal Functional Models*, Journal of Computational and Graphical Statistics, 31(1): 219-230, 2021
7. Cui E, **Crainiceanu CM**, Leroux A. *Additive Functional Cox Model*, Journal of Computational and Graphical Statistics, 30(3):780-793, 2021
8. Karas M, Straczekiewicz M, Fadel W, Harezlak J, **Crainiceanu CM**, Urbanek JK. *Adaptive empirical pattern transformation (ADEPT) with application to walking stride segmentation*, Biostatistics, 22(2):331-347, 2021
9. **Crainiceanu CM**, Crainiceanu A. *The upstrap*, Biostatistics, 21(2):e164-e166, 2020

10. Gherman A, Muschelli J, Caffo B, **Crainiceanu CM**. *Rxnat: An Open-Source R Package for XNAT-Based Repositories*, Frontiers Neuroinformatics, 14:572068, 2020
11. Gaynanova I, Punjabi N, **Crainiceanu CM**. *Modeling continuous glucose monitoring (CGM) data during sleep*, Biostatistics, May 22:kxaa023, 2020
12. Hu M, **Crainiceanu CM**, Schindler MK, Dewey B, Reich DS, Shinohara RT, Eloyan A. *Matrix decomposition for modeling lesion development processes in multiple sclerosis*, Biostatistics, Apr 22:kxaa016, 2020
13. Karas M, Bai J, Strączkiewicz M, Harezlak J, Glynn NW, Harris T, Zipunnikov V, **Crainiceanu CM**, Urbanek JK. *Accelerometry data in health research: challenges and opportunities*, Statistics in Biosciences, 11(2):210-237, 2019
14. Leroux A, Di J, Smirnova E, McGuffey EJ, Cao Q, Bayatmokhtari E, Tabacu L, Zipunnikov V, Urbanek JK, **Crainiceanu CM**. *Organizing and analyzing the activity data in NHANES*, Statistics in Biosciences, 11(2):262-287, 2019
15. Muschelli J, Sweeney E, **Crainiceanu CM**. *freesurfer: Connecting the Freesurfer software with R*, F1000 Research, 7:599, 2018
16. Smirnova E, Ivanescu A, Bai J, Crainiceanu CM. *A practical guide to big data*, Statistics and Probability Letters, 136:25-29, 2018
17. Xiao L, Li C, Checkley W, **Crainiceanu CM**. *Fast covariance estimation for sparse functional data*. Statistics and Computing, 28(3):511-522, 2018
18. Muschelli J, Gherman A, Fortin J-P, Avants B, Whitcher B, Clayden JD, Caffo B, **Crainiceanu CM**. *Neuroconductor: an R platform for medical imaging analysis*, Biostatistics, 2018
19. Leroux A, Xiao L, **Crainiceanu CM**, Checkley, W. *Dynamic prediction in functional concurrent regression with an application to child growth*, Statistics in Medicine, 2017
20. Webb-Vargas Y, Chen S, Fisher A, Mejia A, Xu, Y, Crainiceanu CM, Caffo BS, Lindquist MA. *Big Data and Neuroimaging*. Statistics in Biosciences, 9(2):543-558, 2017
21. Bai J, Sun Y, Schrack JA, **Crainiceanu CM**. *A two-stage model for wearable device data*, Biometrics, 2017
22. Park SY, Staicu A-M, **Crainiceanu CM**. *Simple fixed-effects inference for complex functional models*, Biostatistics, 2017
23. Huang L, Reiss PT, Xiao L, Zipunnikov V, Lindquist MA, **Crainiceanu CM**. *Two-way principal component analysis for matrix-variate data, with an application to functional magnetic resonance imaging data*, Biostatistics, 18(2), 214-229, 2017
24. Chen OY, **Crainiceanu CM**, Ogburn EL, Caffo BS, Wager TD, Lindquist MA. *High-dimensional multivariate mediation with application to neuroimaging data*, Biostatistics, 2017
25. Tine F, Attanasio M, Muggeo VMR, **Crainiceanu CM**. *Evidence of bias in randomized clinical trials of hepatitis C interferon therapies*, Clinical trials, 14(5), 483-488, 2017
26. Yue C, Zipunnikov V, Bazin PL, Pham D, Reich D, **Crainiceanu CM**, Caffo B. *Parameterization of white matter manifold-like structures using principal surfaces*, Journal of the American Statistical Association, 111(515), 1050-1060, 2016
27. Xiao L, Zipunnikov V, Ruppert D, **Crainiceanu CM**. *Fast Covariance Estimation for High-dimensional Functional Data*, Statistics and Computing, 26(1), 409-421, 2016
28. Sweeney E, **Crainiceanu CM**, Gertheiss J. *Testing differentially expressed genes in dose-response studies and with ordinal phenotypes*, Statistical Applications in Genetics and Molecular Biology, 15(3): 213-235, 2016
29. Xiao L, He B, Koster A, Caserotti P, Lange-Maia B, Glynn NW, Harris TB, **Crainiceanu CM**. *Movement prediction using accelerometers in a human population*, Biometrics, 72(2), 513-524, 2016
30. Shou H, Shinohara RT, Liu H, Reich DS, **Crainiceanu CM**. *Soft Null Hypotheses: A Case Study of Image Enhancement Detection in Brain Lesions*, Journal of Computational and Graphical Statistics, 25, 570-588, 2016
31. Gellar JE, Colantuoni E, Needham DM, **Crainiceanu CM**. *Cox regression models with functional covariates for survival data*, Statistical Modeling, 15(3), 256-278, 2015
32. Mejia AF, Nebel MB, Shou H, **Crainiceanu CM**, Pekar JJ, Mostofsky S, Caffo B, Lindquist MA. *Improving reliability of subject-level resting-state fMRI parcellation with shrinkage estimators*, NeuroImage, 112, 14-29, 2015
33. Xiao L, Huang L, Schrack JA, Ferrucci L, Zipunnikov V, **Crainiceanu CM**. *Quantifying the lifetime circadian rhythm of physical activity: a covariate-dependent functional approach*, Biostatistics, 16(2), 352-367, 2015
34. Shou H, Zipunnikov V, **Crainiceanu CM**, Greven S. *Structured functional principal component analysis*, Biometrics, 71(1), 247-257, 2015
35. Staicu AM, Li Y, **Crainiceanu CM**, Ruppert D. *Likelihood ratio tests for dependent data with applications to longitudinal and functional data analysis*, Scandinavian Journal of Statistics, 41(4), 932-949, 2014
36. Gellar JE, Colantuoni E, Needham DM, **Crainiceanu CM**. *Variable-Domain Functional Regression for Modeling ICU Data*, Journal of the American Statistical Association, 109 (508), 1425-

1439, 2014.

37. Swihart BJ, Goldsmith J, **Crainiceanu CM**. *Restricted likelihood ratio tests for functional effects in the functional linear model*, Technometrics, 56(4), 483-493, 2014
38. Shinohara RT, Sweeney EM, Goldsmith AJ, Shiee N, Mateen FJ, Jarso S, Pham DL, Reich DS, **Crainiceanu CM**. Australian Imaging Biomarkers Lifestyle Flagship Study of Ageing; Alzheimer's Disease Neuroimaging Initiative. *Statistical normalization techniques for magnetic resonance imaging*, NeuroImage Clinical, 6, 2014
39. Shou H, Eloyan A, Nebel MB, Mejia A, Pekar JJ, Mostofsky S, Caffo B, Lindquist MA, **Crainiceanu CM**. *Shrinkage prediction of seed-voxel brain connectivity using resting state fMRI*, NeuroImage, 102, 938-944, 2014
40. Di C, **Crainiceanu CM**, Jank WS. *Multilevel sparse functional principal component analysis*, Stat, 3, 2014
41. Bai J, He B, Shou H, Zipunnikov V, Glass TA, **Crainiceanu CM**. *Normalization and extraction of interpretable metrics from raw accelerometry data*, Biostatistics, 15(1), 2014
42. Swihart BJ, Caffo BS, **Crainiceanu CM**. *A unifying framework for marginalized random intercept models of correlated binary outcomes*, International Statistical Review, 82, 2014
43. Zipunnikov Z, Greven S, Shou H, Caffo B, Reich DS, **Crainiceanu CM**. *Longitudinal high-dimensional principal components analysis with application to diffusion tensor imaging of multiple sclerosis*, The Annals of Applied Statistics, 8(4), 2175-2202, 2014
44. Greven S, **Crainiceanu CM**. *On likelihood ratio testing for penalized splines*, Advances in Statistical Analysis, 97, 387-402, 2013
45. Huang L, Goldsmith JA, **Crainiceanu CM**. *Bayesian scalar-on-image regression with application to association between intracranial DTI and cognitive outcomes*, Neuroimage, 83, 210-223, 2013
46. Shou H, Eloyan A, Lee S, Zipunnikov Z, Crainiceanu AN, Nebel MB, Caffo BS, Lindquist MA, **Crainiceanu CM**. *Quantifying the reliability of image replication studies: the image intra-class correlation coefficient (I2C2)* Cognitive, Affective, and Behavioral Neuroscience, 13(4), 714-724, 2013
47. Eloyan A, Caffo BS, **Crainiceanu CM**. *Likelihood Based Population Independent Component Analysis*, Biostatistics, 14(3), 2013
48. Langrock R, Swihart BJ, Caffo BS, Punjabi NM, **Crainiceanu CM**. *Combining Hidden Markov models for comparing the dynamics of multiple sleep electroencephalograms*, Statistics in Medicine, 32(19), 2013
49. Gertheiss J, Goldsmith J, **Crainiceanu CM**, Greven S. *Longitudinal Scalar-on-Functions Regression with Application to Tractography Data*, Biostatistics, 14(3), 2013
50. Goldsmith JA, Huang L, **Crainiceanu CM**. *Smooth scalar-on-image regression via spatial Bayesian selection*, Journal of Computational and Graphical Statistics, 23(1), 46-64, 2014
51. Goldsmith JA, Greven S, **Crainiceanu CM**. *Corrected confidence bands for functional data using principal components*, Biometrics, 69(1), 41-51, 2013
52. Woodard DB, **Crainiceanu CM**, Ruppert D. *Hierarchical Adaptive Regression Kernels for Regression with Functional Predictors*, Journal of Computational and Graphical Statistics, 22, 2013
53. Bai J, Goldsmith AJ, Caffo BS, Glass TA, **Crainiceanu CM**. *Movelets: A dictionary of movement*, Electronic Journal of Statistics, 6, 559-578, 2012
54. **Crainiceanu CM**, Staicu AM, Ray S, Punjabi NM. *Bootstrap-based inference on the difference in the means of two correlated functional processes*, Statistics in Medicine, 31(26), 2012
55. Swihart BJ, Caffo BS, **Crainiceanu CM**, Punjabi NM. *Mixed effect Poisson log-linear models for clinical and epidemiological sleep hypnogram data*, Statistics in Medicine, 2012, doi: 10.1002/sim.4457
56. Goldsmith AJ, **Crainiceanu CM**, Caffo BS, Reich D. *Longitudinal Penalized Functional Regression*, Journal of the Royal Statistical Society, Series C, 61(3), 2012
57. **Crainiceanu CM**, Staicu A-M. *Comments on "Clustering random curves under spatial interdependence with application to service accessibility" by H. Jiang and N. Serban*, Technometrics, 54(2), 120-122, 2012
58. Staicu A-M, **Crainiceanu CM**, Reich DS, Ruppert D. *Modeling functional data with spatially heterogeneous shape characteristics*, Biometrics, 68(2), 331-343, 2012
59. Zipunnikov V, Caffo BS, Davatzikos C, Schwartz B, **Crainiceanu CM**. *Multilevel functional principal component analysis for high dimensional data*, Journal of Computational and Graphical Statistics, 20(4), 852-873, 2011
60. Goldsmith AJ, Wand MP, **Crainiceanu CM**. *Functional regression via variational Bayes*, Electronic Journal of Statistics, 5, 572-602, 2011
61. **Crainiceanu CM**, Caffo BS, Morris J. *Multilevel functional data analysis*, The SAGE Handbook of Multilevel Modeling, 2011
62. **Crainiceanu CM**, Caffo BS, Luo S, Zipunnikov V, Punjabi NM. *Population value decomposition, a*

- framework for the analysis of images, Journal of the American Statistical Association, discussion paper, 2011, 106(495), 775-790.
63. **Crainiceanu CM**, Caffo BS, Luo S, Zipunnikov V, Punjabi NM. *Answer to comments on the paper "Population value decomposition, a framework for the analysis of images"*, Journal of the American Statistical Association, 2011, 106(495), 803-806.
 64. Goldsmith AJ, Caffo BS, **Crainiceanu CM**, Reich D, Du Y, Hendrix C. *Nonlinear tube-fitting for the analysis of anatomical and functional structure*, Annals of Applied Statistics, 5(1), 337-363, 2011
 65. Greven S, **Crainiceanu CM**, Caffo BS, Reich D. *Longitudinal functional principal component analysis*, Electronic Journal of Statistics, 4, 1022-1054, 2010
 66. Goldsmith AJ, Bobb J, **Crainiceanu CM**, Caffo BS, Reich D. *Penalized functional regression*, Journal of Computational and Graphical Statistics, 20(4), 830-851, 2011
 67. **Crainiceanu CM**. *Comments on "Spatial prediction in the presence of positional error"*, by T.R. Fanshawe and P.J. Diggle, Environmetrics, 22, 23-24, 2010
 68. Caffo BS, **Crainiceanu CM**, Verduzco G, Joel S, Mostofski S, Bassett SS, Pekar JJ. *Two-stage decompositions for the analysis of functional connectivity for fMRI with application to Alzheimer's disease risk*, NeuroImage, 51(3), 1140-1149, 2010
 69. Staicu A-M, **Crainiceanu CM**, Carroll RJ. *Fast Methods for Spatially Correlated Multilevel Functional Data*, Biostatistics, 11(2), 177-194, 2010
 70. Kneib T, Brezger A, **Crainiceanu CM**. *Generalized Semiparametric Regression with Covariates Measured with Error*. In: Statistical Modelling and Regression Structures Festschrift in Honour of Ludwig Fahrmeir, Kneib T and Tutz G (Eds.), Physica-Verlag, 2010
 71. **Crainiceanu CM**, Staicu A-M, Di C-Z. *Generalized Multilevel Functional Regression*, Journal of the American Statistical Association, 104(488), 1550-1561, 2009
 72. **Crainiceanu CM**, Goldsmith AJ. *Bayesian Functional Data Analysis using WinBUGS*, Journal of Statistical Software, 32(11), 2009
 73. Cheng Y-J, **Crainiceanu CM**. *Cox Models with Smooth Functional Effect of Covariates Measured with Error*, Journal of the American Statistical Association, 104(487), 1144- 1154, 2009
 74. Di C, **Crainiceanu CM**, Caffo BS, Punjabi NM. *Multilevel Functional Principal Component Analysis*, The Annals of Applied Statistics, 3(1), 458-488, 2009
 75. **Crainiceanu CM**. *Comments on "Bayesian Generalized Method of Moments"*, by G. Yin, Bayesian Analysis, 4(2), 213-216, 2009
 76. **Crainiceanu CM**, Caffo BS, Di C, Punjabi NM. *Nonparametric Signal Extraction and Measurement Error in the Analysis of Electroencephalographic Data*, Journal of the American Statistical Association, 104(486), 541-555, 2009
 77. Luo S, **Crainiceanu CM**, Louis TA, Chatterjee N. *Bayesian Inference for Smoking Cessation with a Latent Cure State*, Biometrics, 65, 970-978, 2009
 78. Caffo BS, Swihart B, Laffan A, **Crainiceanu CM**, Punjabi NM. *An Overview of Observational Sleep Research with Application to Sleep Transitioning*. Invited from Chance 22 (1), 10-15, 2009
 79. Caffo BS, **Crainiceanu CM**, Deng L, Hendrix CW. *A case study in pharmacologic imaging using principal curves in single photon emission computed tomography*, Journal of the American Statistical Association, 103(484), 1470-1480, 2008
 80. **Crainiceanu CM**, Dominici, F, Parmigiani, G. *Adjustment Uncertainty in Effect Estimation*, Biometrika, 95, 635-651, 2008
 81. Dominici, F, Wang C, **Crainiceanu CM**, Parmigiani G. *Model selection and health effect estimation in Environmental Epidemiology*, Epidemiology, 19(4), 558-560, 2008
 82. **Crainiceanu CM**. *Likelihood Ratio Testing for Zero Variance Components in Linear Mixed Models*. In Model Uncertainty in Random Effects and Latent Variable Models, Ed. David B. Dunson, Springer Verlag, 2008
 83. Greven S, **Crainiceanu CM**, Kuechenhoff H, Peters A. *Restricted Likelihood Ratio Testing for Zero Variance Components in Linear Mixed Models*, Journal of Computational and Graphical Statistics, 17(4), 870-891, 2008
 84. **Crainiceanu CM**, Diggle, PJ, Rowlingson, B. *Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa*, Journal of the American Statistical Association, discussion paper, 103(481), 21-37, 2008
 85. **Crainiceanu CM**, Diggle, PJ, Rowlingson, B. *Rejoinder to comments on "Bivariate Binomial Spatial Modeling of Loaloa Prevalence in Tropical Africa"*, Journal of the American Statistical Association, 103(481), 43-43, 2008
 86. Luo S, **Crainiceanu CM**, Louis TA, Chatterjee N. *Analysis of Smoking Cessation Patterns Using a Stochastic Mixed Effects Model with a Latent Cured State*, Journal of the American Statistical Association, 103(483),

1002-1013, 2008

87. Krivobokova T, **Crainiceanu CM**, Kauermann, G. *Fast Adaptive Penalised Splines*, Journal of Computational and Graphical Statistics, 17(1), 1-20, 2008
88. **Crainiceanu CM**, Ruppert D, Carroll RJ, Adarsh, J., Goodner, B. *Spatially adaptive penalized splines with heteroscedastic errors*, Journal of Computational and Graphical Statistics, 16(2), 265-288, 2007
89. **Crainiceanu CM**, Vogelsang T. *Nonmonotonic Power for Tests of a Mean Shift in a Time Series*, Journal of Statistical Computation and Simulation, 77(6), 457-476, 2007
90. Gimenez O, **Crainiceanu CM**, Barbraud C, Jenouvrier S, Morgan BJT. *Semiparametric Regression in Capture-Recapture Modelling*, Biometrics, 62(3), 691-698, 2006
91. **Crainiceanu CM**, Ruppert D, Wand MP. *Bayesian Analysis for Penalized Spline Regression Using WinBUGS*, Journal of Statistical Software, 14(14), 2005
92. **Crainiceanu CM**, Ruppert D, Claeskens G, Wand MP. *Exact likelihood ratio tests for penalized splines*. Biometrika, 92(1), 91-103, 2005.
93. Carroll RJ, Ruppert D, **Crainiceanu CM**, Tosteson T, Karagas M. *Nonlinear and Nonparametric Regression and Instrumental Variables*. Journal of the American Statistical Association, 99 (467), 736-750, 2004.
94. **Crainiceanu CM**, Ruppert D. *Restricted Likelihood Ratio Tests in Nonparametric Longitudinal Models*. Statistica Sinica, 14(3), 713-729, 2004.
95. **Crainiceanu CM**, Ruppert D. *Likelihood ratio tests in Linear Mixed Models with One Variance Component*. Journal of the Royal Statistical Society, Series B, 66, 165-185, 2004.
96. **Crainiceanu CM**, Ruppert D. *Likelihood Ratio Tests for Goodness-of-Fit of a Nonlinear Regression Model*. Journal of Multivariate Analysis, 91, 35-52, 2004.
97. **Crainiceanu CM**, Ruppert D, Stedinger JR, Behr CT. *Improving MCMC Mixing for a GLMM Describing Pathogen Concentrations in Water Supplies*. In: Case Studies in Bayesian Statistics Volume VI, 207-221, Springer Verlag 2002

Health applications:

98. Wanigatunga AA, Dong Y, Jin M, Leroux A, Cui, E, Zhou X, Zhao A, Schrack JA, Bandeen-Roche K, Walston J, Xue QL, Lindquist MA, **Crainiceanu CM**. (2024). *Moderate-to-Vigorous Physical Activity at Any Dose Reduces All-Cause Dementia Risk Regardless of Frailty Status*, The Journal of Post-Acute and Long-Term Care Medical Association, 2024
99. Koffman L, **Crainiceanu CM**, Muschelli J. *Comparing Step Counting Algorithms for High-Resolution Wrist Accelerometry Data in NHANES 2011-2014*. Medicine & Science in Sports & Exercise, 2024
100. Goeddel LA, Koffman L, Hernandez M, Whitman G, Parikh CR, Lima JAC, Bandeen-Roche K, Zhou X, Muschelli J 3rd, **Crainiceanu CM**, Faraday N, Brown C IV. *Occurrence of Low Cardiac Index During Normotensive Periods in Cardiac Surgery: A Prospective Cohort Study Using Continuous Noninvasive Cardiac Output Monitoring*. Anesthesia and Analgesia, 2024
101. Goeddel LA, Hernandez M, Koffman L, Slowey C, Muschelli J 3rd, Zhou X, Parikh CR, Lima JAC, Bandeen-Roche K, Faraday N, **Crainiceanu CM**, Brown C IV. *Assessment of Renal Vein Stasis Index by Transesophageal Echocardiography During Cardiac Surgery: A Feasibility Study*. Anesthesia and Analgesia, 2024
102. Yang KK, Rattsev I, Lkhagvajav Z, Flaks-Manov N, Gorman K, Epstein JA, **Crainiceanu CM**, Taylor CO. *Patterns of healthcare utilization according to health equity determinants during the first year of the pandemic at Johns Hopkins Medicine*. JAMIA Open, 7(4), 2024
103. Blair PW, Siddharthan T, Herrera PM, Cui E, Waitt P, Hossen S, Fong TC, Anova L, Erazo H, Mount C, Pettrone K, Rothman RE, Pollett SD, **Crainiceanu CM**, Clark DV; *Rapid Assessment of Infection with SONography (RAISON) Research Group and the Epidemiology, Immunology, and Clinical Characteristics of Emerging Infectious Diseases with Pandemic Potential (EPICC) Research Group*. *Validation of Lung Ultrasound for Coronavirus Disease 2019 Prognostication in an International Multicenter Cohort Study*. Journal of Infectious Diseases, 230(5):e1092-e1100, 2024
104. Marino FR, Wu HT, Etzkorn L, Rooney MR, Soliman EZ, Deal JA, **Crainiceanu CM**, Spira AP, Wanigatunga AA, Schrack JA, Chen LY. *Associations of Physical Activity and Heart Rate Variability from a Two-Week ECG Monitor with Cognitive Function and Dementia: The ARIC Neurocognitive Study*. Sensors, 24(13):4060, 2024

105. Leroux A, Cui E, Smirnova E, Muschelli J, Schrack JA, Crainiceanu CM. *NHANES 2011-2014: Objective Physical Activity Is the Strongest Predictor of All-Cause Mortality*. Medicine & Science in Sports & Exercise, 56(10):1926-1934, 2024.
106. Ballard ED, Greenstein D, Reiss PT, **Crainiceanu CM**, Cui E, Duncan WC Jr, Hejazi NS, Zarate CA Jr. *Functional changes in sleep-related arousal after ketamine administration in individuals with treatment-resistant depression*. Translational Psychiatry, 14(1):238, 2024
107. Leroux A, **Crainiceanu CM**, Zeger S, Taub M, Ansari B, Wager TD, Bayman E, Coffey C, Langefeld C, McCarthy R, Tsodikov A, Brummet C, Clauw DJ, Edwards RR, Lindquist MA; A2CPS Consortium. *Statistical modeling of acute and chronic pain patient-reported outcomes obtained from ecological momentary assessment*. Pain, 165(9):1955-1965, 2024
108. Etzkorn LH, Heravi AS, Knuth ND, Wu KC, Post WS, Urbanek JK, **Crainiceanu CM**. *Classification of Free-Living Body Posture with ECG Patch Accelerometers: Application to the Multicenter AIDS Cohort Study*. Statistics in Biosciences, 16(1):25-44, 2024
109. Koffman L, Zhang Y, Harezlak J, **Crainiceanu CM**, Leroux A. *Fingerprinting walking using wrist-worn accelerometers*, Gait & Posture, 2023
101. Koffman LJ, **Crainiceanu CM**, Roemmich RT, French MA. *Identifying Unique Subgroups of Individuals with Stroke Using Heart Rate and Steps to Characterize Physical Activity*. Journal of American Heart Association, 8:e030577, 2023
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193. Gribble MO, Howard BV, Umans JG, Shara NM, Francesconi KA, Goessler W, **Crainiceanu CM**, Silbergeld EK, Guallar E, Navas-Acien A. *Arsenic Exposure, Diabetes Prevalence, and Diabetes Control in the Strong Heart Study*. American Journal of Epidemiology, 176(10), 865-874, 2012
194. De Beuf K, Pipelers P, Andriankaja M, Thas O, Inzé D, **Crainiceanu CM**, Clement L. *Analysis of tiling array expression studies with flexible designs in Bioconductor (waveTiling)*. BMC Bioinformatics, 13, 234, 2012
195. Yang X, Lauzon CB, **Crainiceanu CM**, Caffo B, Resnick SM, Landman BL. *Biological parametric mapping accounting for random regressors with regression calibration and model II regression*. NeuroImage, 62(3), 1761-1768, 2012
196. Paynter NP, **Crainiceanu CM**, Sharett R, Coresh J. *Effect of Correcting for Long Term Variation in Major Coronary Heart Disease Risk Factors: Relative Hazard Estimation and Risk Prediction in the ARIC Study*. Annals of Epidemiology, 22(3): 191-197, 2012
197. Shinohara RT, Goldsmith AJ, Mateen S, **Crainiceanu CM**, Reich D. *Predicting Breakdown of the Blood-Brain Barrier in Multiple Sclerosis without Contrast Agents*. American Journal of Neuroradiology, 33(8), 1586-1690, 2012
198. Clement L, De Beuf K, Thas O, Vuylsteke M, Irizarry RA, **Crainiceanu CM**. *Fast Wavelet Based Functional Models for Transcriptome Analysis with Tiling Arrays*. Statistical Applications in Genetics and Molecular Biology, 11(1), 4, 2012
199. Rava M, **Crainiceanu CM**, Marcon A, Cazzoletti L, Pironi V, Silocchi C, Ricci P, de Marco R. *Proximity to wood industries and respiratory symptoms in children: A sensitivity analysis*. Environment International, 38(1), 37-44, 2012
200. Syc SB, Saidha S, Newsome SD, Ratchford JN, Levy M, Ford E, **Crainiceanu CM**, Durbin MK, Oakley JD, Meyer SA, Frohman EM, Calabresi PA. *Retinal segmentation of optical coherence tomography scans reveals ganglion cell layer pathology after acute optic neuritis*. Brain, 135(2), 521-533, 2012
201. Aurora RN, Caffo BS, **Crainiceanu CM**, Punjabi NM. *Correlating Subjective and Objective Sleepiness: Revisiting the Association Using Survival Analysis*. Sleep, 34(12): 1707-1714, 2011
202. Shinohara RT, **Crainiceanu CM**, Caffo BS, Gaitan MI, Reich D. *Population-wide nonparametric quantification of blood-brain-barrier dynamics in Multiple Sclerosis*. NeuroImage, 57(4), 1430-1446, 2011
203. Warner CV, Syc SB, Stankiewicz AM, Hiremath G, Farrell SK, **Crainiceanu CM**, Conger A, Frohman TC, Bisker ER, Balcer LJ, Frohman EM, Calabresi PA, Saidha S. *The Impact of Utilizing Different Optical Coherence Tomography Devices for Clinical Purposes and in Multiple Sclerosis Trials*. PLoS ONE 6(8): e22947
204. Zipunnikov V, Caffo BS, Davatzikos C, Schwartz B, **Crainiceanu CM**. *Functional principal component analysis for high dimensional brain imaging*. NeuroImage, 58(3), 772-784, 2011
205. Goldsmith, JA, **Crainiceanu CM**, Caffo BS, Reich D. *Penalized Functional Regression analysis of white-matter tract profiles in Multiple Sclerosis*. NeuroImage, 57(2), 431- 439, 2011

206. Korzeniewska A, Franaszczuk PJ, **Crainiceanu CM**, Kuś R, Crone NE. *Dynamics of large-scale cortical interactions at high gamma frequencies during word production: Event related causality (ERC) analysis of human electrocorticography (ECoG)*, NeuroImage, 56(4), 2218-37, 2011
207. Warner CV, Syc SB, Stankiewicz AM, Hiremath G, Farrell SK, **Crainiceanu CM**, Conger A, Frohman TC, Bisker ER, Balcer LJ, Frohman EM, Calabresi PA, Saidha S. *The impact of utilizing different optical coherence tomography devices for clinical purposes and in multiple sclerosis trials*. PloS One, 6(8), e22947, 2011
208. Tellez-Plaza M, Navas-Acien A, **Crainiceanu CM**, Sharrett AR, Guallar E. *Cadmium and Peripheral Arterial Disease: Gender Differences in the 1999-2004 US National Health and Nutrition Examination Survey*, American Journal of Epidemiology, 172(6), 671-681, 2010
209. Gardner RM, Nyland JF, Evans SL, Wang SB, Doyle KM, **Crainiceanu CM**, Silbergeld EK. *Mercury induces an unopposed inflammatory response in human peripheral blood mononuclear cells in vitro*. Environmental Health Perspectives, 117(12), 1932-1938, 2009
210. Navas-Acien A, Umans JG, Howard BV, Goessler W, Francesconi KA, **Crainiceanu CM**, Silbergeld EK, Guallar E. *Urine arsenic concentrations and species excretion patterns in American Indian communities over a 10-year period: the Strong Heart Study*, Environmental Health Perspectives, 117(9), 1428-1433, 2009
211. Tellez-Plaza M, Navas-Acien A, **Crainiceanu CM**, Guallar E. *Cadmium Exposure and Hypertension in the 1999-2004 National Health and Nutrition Examination Survey (NHANES)*, Environmental Health Perspectives, 116(1), 51-56, 2008
212. Korzeniewska A, **Crainiceanu CM**, Franaszczuk P, Kus R, Crone N. *Dynamics of event-related causality (ERC) in brain electrical activity*, Human Brain Mapping, 2007
213. Selvin E, **Crainiceanu CM**, Brancati FL, Coresh J. *Short-term Variability in Measures of Glycemia and Implications for the Classification of Diabetes*, Archives of Internal Medicine, 167(14), 1545-1551, 2007
214. Kottgen A, Russell SD, Loehr LR, **Crainiceanu CM**, Rosamond WD, Chang PP, Chambless LE, Coresh J. *Reduced Kidney Function as a Risk Factor for Incident Heart Failure: The Atherosclerosis Risk in Communities (ARIC) Study*, Journal of the American Society of Nephrology, 18, 1307-1315, 2007
215. Sinai A, Bowers CW, **Crainiceanu CM**, Boatman D, Gordon B, Lesser RP, Lenz FA, Crone NE. *Electrocorticographic high gamma activity versus electrical cortical stimulation mapping of naming*, Brain, 1556-1570, 2005
216. van Schaik G, Schukken YH, **Crainiceanu CM**, Muskens J, VanLeeuwen JA. *Prevalence Estimates for Paratuberculosis Adjusted for Test Variability Using Bayesian Analysis*. Preventive Veterinary Medicine, Preventive Veterinary Medicine, 60(4), 281- 295, 2003
217. **Crainiceanu CM**, Stedinger JR, Ruppert D, Behr CT. *Modeling the National distribution of Waterborne Pathogen Concentrations with Application to Cryptosporidium parvum*, Water Resources Research, 39(9), 1-15, 2003

Proceedings

218. Krivobokova, T, **Crainiceanu CM**, Kauermann, G. *Computationally Efficient Spatially Adaptive Penalized Splines*. Proceedings of the 21st Workshop on Statistical Modeling, Galway, Ireland, 2006.
219. **Crainiceanu CM**, Stedinger JR. *Climate Variability and Flood Risk Management*. Risk-based decision making in water resources IX - Proceedings of the ninth conference, Santa Barbara, CA 2000

Other published work:

220. **Crainiceanu CM**. *Review of the book Nonparametric Regression Methods for Longitudinal Data Analysis: Mixed-Effects Modeling Approaches* by H. Wu and J.T. Zhang, Journal of American Statistical Association, 102 (478), 2007
221. **Crainiceanu CM**. *On the likelihood function for a multivariate MA(q) process*, Annals of the University of Bucharest, 47, 125-130, 1999
222. **Crainiceanu CM**. *On the optimum benefit in two and three person games*, Annals of the University of Bucharest, 47, 33-40, 1998

Software

1. Krivobokova T, **Crainiceanu CM**, Kauermann, G. (2006) *AdaptFit*. Software for adaptive penalized splines for Gaussian and non-Gaussian regression. Listed as a comprehensive R Archive Network

2. Reiss P, Huang L, Goldsmith J-A, **Crainiceanu CM**. (2011) *Refund*. Regression with Functional Data. Listed as a comprehensive R Archive Network
3. Muschelli J, Gherman A, Fortin JP, Avants B, Whitcher B, Clayden JD, Caffo B, **Crainiceanu CM** (2017). Neuroconductor: an R platform for medical imaging analysis

PRESENTATIONS

1. Objectively measured physical activity is the strongest predictor of mortality, MS, PD, and AD, University of Iowa, Iowa City, IA, 2024
2. Functional Data Analysis with R, Cornell University, Ithaca, NY, 2023
3. The Functional Cox Model, ENAR, Nashville, TN, 2023
4. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, University of South Carolina, SC, 2023
5. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, University of California San Diego, CA, 2022 (virtual)
6. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, University of Haifa, Israel, 2022 (virtual)
7. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, City University of Hong Kong, China, 2021 (virtual)
8. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, University of North Carolina, Chapel Hill, NC, 2021 (virtual)
9. Longitudinal Image Analysis and Inference, Statistical Methods in Imaging, Atlanta, GA, 2021 (virtual)
10. Objective physical activity monitoring using wearable devices, University of Melbourne, Melbourne, Australia, 2020 (virtual)
11. Wearable and Implantable Technology (WIT) with Biopharmaceutical Applications, Northwestern University, IL, 2020 (virtual)
12. Wearable and Implantable Technology (WIT) with Biopharmaceutical Applications, St. Jude Children's Research Hospital, Arlington, VA, 2020 (virtual)
13. Wearable and Implantable Technology (WIT) with Biopharmaceutical Applications, Weill Cornell Medicine, New York, NY, 2020 (virtual)
14. Data visualization for wearable and implantable sensors in health research, Johns Hopkins University, Baltimore, MD, 2020
15. Wearable and Implantable Technology (WIT), Banff, Canada, 2020
16. Statistical Methods for Wearable and Implantable Technologies (WIT), University of Kansas Medical Center, Kansas City, KS, 2019
17. Biostatistical Methods for Wearable and Implantable Technology (WIT), Virginia Commonwealth University, Richmond, VA, 2019
18. Biostatistical Methods for Wearable and Implantable Technology, Rice University, Houston, TX, 2018
19. Biostatistical Methods for Wearable and Implantable Technology, Georgetown University, Washington, DC, 2018
20. Biostatistical Methods for Wearable and Implantable Technology, University of Maryland, College Station, MD, 2018
21. Biostatistical Methods for Wearable and Implantable Technology, University of Pittsburgh, Pittsburgh, PA, 2018
22. Biostatistical Methods for Wearable and Implantable Technology, University of Utah, Salt Lake, UT, 2018
23. Biostatistical Methods for Wearable and Implantable Technology, Old Dominion University, Norfolk, VA, 2018
24. Emerging Biostatistical Problems in Wearable and Implantable Technology, ENAR, Atlanta, 2018
25. Biostatistical Methods for Wearable and Implantable Technology, Harvard, Boston, MA, 2018
26. Recent Developments in Statistical Methods for Analyzing Big and Complex Neuroimaging Data, JSM, Baltimore, MD, 2017
27. Neuroconductor: Building the R imaging Community, ENAR, Washington, DC, 2017
28. Relating Multi-Sequence Longitudinal Intensity Profiles and Clinical Covariates in Incident Multiple Sclerosis Lesions, ENAR, Washington, DC, 2017
29. Statistical Segmentation of Multiple Sclerosis Lesions on Structural Magnetic Resonance Imaging, JSM, Chicago, IL, 2016

30. Functional Regression Methods for Densely-Sampled Biomarkers in the ICU, ENAR, Austin, TX, 2016
31. Stroke Localization and Association with Health Outcomes Using Clinical CT Images, JSM, Seattle, WA, 2015
32. Not Everybody, but Some People Move Like You, ENAR, Miami, FL, 2015
33. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, George Washington University, DC, 2014
34. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, Duke, NC, 2014
35. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, University of Washington, WA, 2014
36. Variable-Domain Functional Data Analysis, ENAR, MD, 2014
37. Coming to our sensors: Why body language is harder to decode than natural language. University of Pennsylvania, Philadelphia, PA, 2013
38. Coming to our sensors: Why body language is harder to decode than natural language. Brigham Young University, Provo, UT, 2012
39. Longitudinal analysis of high resolution structural brain images, Brown University, Providence, RI, 2012
40. Longitudinal analysis of high resolution structural brain images, Florida State University, Tallahassee, FL, 2012
41. Longitudinal analysis of high resolution structural brain images, Statistische Woche, Vienna, Austria, 2012
42. Calibration of Ultra High-Dimensional Data with Application to DTI Tractography. JSM, San Diego, CA, 2012
43. Movelets: A dictionary of Movement, Rice University, Houston, TX, 2012
44. SubLIME: Automatic lesion incidence estimation and detection using multi-modality longitudinal MRIs, Indiana University, Indianapolis, IN, 2012
45. Movelets: A dictionary of Movement, ENAR, Washington, DC, 2012
46. Movelets: A dictionary of Movement, Emory University, GA, 2011
47. Movelets: A dictionary of Movement, Johns Hopkins University, MD, 2011
48. My first 100 terabytes of data: Statistical principles and methods, ENAR, Miami, FL, 2011
49. Population-wide model-free quantification of brain blood barrier dynamics in Multiple Sclerosis: Cornell University, NY, 2011
50. Population-wide model-free quantification of brain blood barrier dynamics in Multiple Sclerosis: University of North Carolina at Chapel Hill, NC, 2011
51. Longitudinal Functional Principal Component Analysis: University of Michigan, MI, 2011
52. Longitudinal Functional Principal Component Analysis: North Carolina State University, NC, 2010
53. My first 100 terabytes of data: SAMSI workshop, Durham, NC, 2010
54. High dimensional multilevel functional principal component analysis: JSM conference, Vancouver, Canada, 2010
55. Longitudinal Functional Principal Component Analysis: SRCOS conference, Virginia Beach, VA, 2010
56. The rise of data and Biostatistics in the 21st century: University of Ottawa, Ottawa, Canada, 2010
57. My first 100 terabytes of data: UMBC, Baltimore, MD 2010
58. Analysis of Populations of Images: Johns Hopkins University, Baltimore, MD 2010
59. Longitudinal Functional Principal Component Analysis: University of Wisconsin-Madison, Madison, WI, 2010
60. Longitudinal Functional Principal Component Analysis: Johns Hopkins University, Baltimore, MD 2010
61. Longitudinal Object Analysis: Yale University, New Haven, CT 2009
62. Analysis of Populations of Images: UMBC, Baltimore, MD 2009
63. Short Course on Semiparametric Regression: Oberwolfach, Germany, 2009
64. Analysis of Populations of Images: Cornell University, Ithaca, NY 2009
65. Longitudinal Object Analysis: Duke University, Durham, NC 2009
66. Longitudinal Object Analysis: University of Bristol, UK, 2009
67. Longitudinal Object Analysis: Penn State University, University Park, PA 2008
68. Longitudinal Object Analysis: Thomas Jefferson University, Philadelphia, PA 2008
69. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: JSM, invited JASA CS discussion paper, Denver, CO, 2008

70. Cox models with smooth functional effects of covariates measured with error: SRCOS SRC, Charleston, SC, 2008
71. Cox models with smooth functional effects of covariates measured with error: ICSA, Piscataway, NJ, 2008
72. Sleep Studies: Conference in honor of David Ruppert's 60th birthday, Keystone, CO, 2008
73. Multilevel Functional Principal Component Analysis: George Washington University, DC, 2007
74. Multilevel Functional Principal Component Analysis: CRM-ISM-GERAD Statistics Colloquium Series (jointly organized by the four Universities of Montreal), Montreal, Canada, 2007
75. Multilevel Functional Principal Component Analysis: Georgetown University, DC, 2007
76. Multilevel Functional Principal Component Analysis: Cornell University, Ithaca, NY, 2007
77. Multilevel Nonparametric Models: JSM, Salt Lake City, UT, 2007
78. Principal curves with application to SPECT colon imaging Keystone, CO, 2007
79. Likelihood Ratio Tests for Zero Variance in Linear Mixed Models: ENAR, Atlanta, GA, 2007
80. Short Course on Semiparametric Regression: University of Bucharest, Romania, 2006
81. Cox models with nonlinear effect of covariates measured with error: A case study of chronic kidney disease incidence: National Cancer Institute, Bethesda, MD, 2006
82. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: University of Bucharest, Romania, 2006
83. Cox models with nonlinear effect of covariates measured with error: A case study of chronic kidney disease incidence: JSM, Seattle, WA, 2006
84. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: JSM, Seattle, WA, 2006
85. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: Ludwig-Maximilians-Universität, Munich, Germany, 2006
86. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: University of Bielefeld, Germany, 2006
87. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: Columbia University, 2006
88. Adjustment Uncertainty in Effect Estimation: University of Pennsylvania, 2006
89. STEADY: Structured Estimation under Adjustment Uncertainty: University of Maryland, 2005
90. STEADY: A Case Study in Air Pollution and Mortality: WNAR, Fairbanks AK 2005
91. Short Course on Semiparametric Regression: JSM, Minneapolis, MN 2005
92. STEADY: A Case Study in Air Pollution and Mortality: JSM, Minneapolis, MN 2005
93. Spatially Adaptive Bayesian P-Splines with Heteroscedastic Errors: ENAR, Austin, TX 2005. IMS invited presentation
94. Spatially Adaptive Bayesian P-Splines with Heteroscedastic Errors: University of Pennsylvania, 2005
95. Spatially Adaptive Bayesian P-Splines with Heteroscedastic Errors: Lancaster University, UK, 2005
96. Bayesian Model Averaging: Johns Hopkins University, 2004
97. Some Research Problems with Applications: Johns Hopkins University, 2004
98. Likelihood Ratio Tests for Zero Random Effects Variance: Cornell University, 2002, 2004.
99. Likelihood Ratio Tests for Zero Random Effects Variance: Johns Hopkins University, 2003.
100. Likelihood Ratio Tests for Zero Random Effects Variance: Syracuse University, NY, 2004.
101. Likelihood Ratio Tests for Zero Random Effects Variance: University of Rochester, 2004.
102. Non-parametric Bayesian Analysis in WinBUGS, Racebrook Environmental Statistics Workshop, November 1-3, 2002
103. Data Dependent Bandwidth Choice: Source of Non-monotonic Power for Tests of Shift in Mean, Cornell University, 2002
104. Bayesian Hierarchical Modeling to Assess Pathogen Risk in Natural Water Supplies, Case Studies in Bayesian Statistics – Workshop 6, Carnegie Mellon University, 2001
105. Pathogen Risk Assessment in Water Supplies (An application of Bayesian hierarchical modeling), Environmental Statistics Conference, Cornell/Harvard, 2000
106. Pathogen Risk Assessment in Water Supplies (An application of Bayesian hierarchical modeling), ASA - Albany Chapter Conference, Rensselaer, NY 2002

RESEARCH GRANTS PARTICIPATION

Principal investigator

Title: Statistical Methods for Multilevel Multivariate Functional Studies
Agency: NIH/NINDS
Period: 2017-2022
Effort: 20%

Title: Statistical Methods for Biosignals with Varying Domains
Agency: NIH/NHLBI
Period: 2014-2018
Effort: 16%

Title: Techniques for Analysis of Wrist-worn Accelerometers
Agency: NIH/NIA
Period: 2014-2016
Effort: 1%

Title: Actiheart Project
Agency: NIH/NIA
Period: 2014-2015
Effort: 1%

Title: Statistical Methods for Multilevel Multivariate Functional Studies
Agency: NIH/NINDS
Period: 2012-2017
Effort: 16%

Title: Statistical Methods for Multilevel Multivariate Functional Studies
Agency: NIH/NINDS
Period: 2009-2011
Effort: 30%

Title: Adjustment Uncertainty in Effect Estimation
Agency: Johns Hopkins University
Period: 2004-2005
Effort: 20%

Co-investigator

Title: ECHODAC (Environmental Influences on Child Health Outcomes Data Analysis Center)
Agency: NIH
Period: 2016 – 2023
Effort: 20%

Title: Recovery of Affective Prosody after Stroke
Agency: NIH/NIDCD
Period: 2017 – 2022
Effort: 5%

Title: Imaging Neurodegeneration in Multiple Sclerosis
Agency: NIH/NINDS
Period: 2018 – 2023
Effort: 5%

Title: Statistical Methods to Improve Reproducibility and Reduce Technical Variability in Heterogeneous Multimodal Neuroimaging Studies of Alzheimer's Disease

Agency: NIA/NINDS

Period: 2019 – 2024

Effort: 10%

Title: Data Center for Acute to Chronic Pain Biosignatures

Agency: NIH/NIDA

Period: 2019 – 2023

Effort: 20%

Title: Implications of Obstructive Sleep Apnea for Fat Metabolism

Agency: NIH/NHLBI

Period: 2019 – 2023

Effort: 10%

Title: Advanced Statistical Analytics of MRI in MS

Agency: NIH/NINDS

Period: 2020-2025

Effort: 10%

Title: Statistical Models of Alzheimer's Disease Pathological Cascade

Agency: NIH/NIA

Period: 2020 – 2024

Effort: 5%

Title: Deep Learning Methods for Harmonization of Heterogeneous Multiple Sclerosis

Agency: Congressionally Directed Medical Research Programs

Period: 2020 – 2023

Effort: 2%

Title: Statistical Methods for Analyzing Objectively Measured Physical Activity Data

Agency: NIH/NHLBI

Period: 2016 – 2021

Effort: 10%

Title: Poor Sleep Altered Circadian Rhythms and Alzheimer's Disease

Agency: NIH/NIA

Period: 2015 – 2020

Effort: 5%

Title: Strengthening Informal Support Resources with Strategic Methodological Advances

Agency: NIH/NIA

Period: 2014 – 2019

Effort: 4%

Title: Big Data Education for the Masses: MOOCs, Modules and Intelligent Tutoring Systems

Agency: NIH/NIBIB

Period: 2014 – 2017

Effort: 4.5%

Title: Statistical Methods for Large and Complex Databases of Ultra-High-Dimensional Brain Images

Agency: NIH - UPENN

Period: 2013 – 2018

Effort: 8%

Title: Statistical Methods for Mapping Human Brain Development

Agency: NIH - NYU
Period: 2012 – 2017
Effort: 4%

Title: Johns Hopkins Pediatric Obesity Research and Training Center (U54 grant) Agency: NIH/NICHHD
Period: 2011 – 2016
Effort: 5%

Title: Statistical Methods for Large N and P Problems
Agency: NIH/NIBIB
Period: 2010 – 2016
Effort: 16%

Title: Metabolome-Wide Analysis for the Risk-Stratification of Sudden Cardiac Death
Agency: NIH/NHLBI
Period: 2010 – 2015
Effort: 5%

Title: Atherosclerosis Risk in Communities (ARIC) Study - Field Center
Agency: NIH/NHLBI
Period: 2010 – 2015
Effort: 5%

Title: Longitudinal study of markers of oxidative capacity and type 2 diabetes
Agency: NIH/NIDDK
Period: 2010 - 2013
Effort: 5%

Title: Fundamental Biology of Sudden Cardiac Death and Its Application to Identify Patients at Risk
Agency: NIH/NHLBI
Period: 2009 – 2014
Effort: 5%

Title: Proteomic Approach to CKD Biomarker Discovery and Validation
Agency: NIH/NIDDK
Period: 2009 – 2014
Effort: 8%

Title: Lead, Cadmium, Arsenic, and Cardiovascular Risk in Children
Agency: NIH/NHLBI
Period: 2009 – 2011
Effort: 8%

Title: Arsenic Exposure, Cardiovascular Disease and Diabetes in Native Americans
Agency: NIH/NHLBI
Period: 2008 – 2012
Effort: 5%

Title: Longitudinal Study of Predictors and Consequences of Chronic Kidney Disease Agency: NIH/NIDDK
Period: 2007 – 2013
Effort: 5%

Title: Preprocessing and Analysis Tools for Contemporary Microarray Applications
Agency: NIH
Period: 2007-2012
Effort: 10%

Title: Longitudinal Changes in Sleep Structure: Implications for Health Outcomes
Agency: NIH
Period: 2007-2012
Effort: 20%

Title: Novel Statistical Methods for Gene-Environment Interactions in Complex Diseases
Agency: NHLBI
Period: 2007-2010
Effort: 15%

Title: Defining the Clinical Significance of HbA1c Prior to the Onset of Diabetes
Agency: NIH/NIDDK
Period: 2007 – 2009
Effort: 5%

Title: Effects of Aging on Sleep Architecture Agency: NIH
Period: 2005-2009
Effort: 15%

Title: Electroencephalographic Studies of Human Cortical Function
Agency: NIH/NINDS
Period: 2005-2008
Effort: 15%

Title: The Multi-Ethnic Study of Atherosclerosis
Agency: NIH
Period: 2005-2007
Effort: 15%

Title: Calibration and Mapping for Parasitological and RAPLOA Estimates of LoaLoa Prevalence
Agency: WHO
Period: 2005-2006
Effort: 20%

Title: National Study of Costs and Outcomes of Trauma
Agency: U.S. Environmental Protection Agency
Period: 2004-2005
Effort: 5%

Title: Risk Factors for Cardiovascular Disease in a Dialysis Cohort
Agency: NIH/NHLBI
Period: 2004 -2005
Effort: 10%

Title: Atherosclerosis Risk in Communities (ARIC) Study
Agency: NIH/NHLBI
Period: 2000 – 2012
Effort: 5%

TEACHING

Classroom instruction

Johns Hopkins University

<u>Year</u>	<u>Course</u>	<u>Enrollment</u>
2023-25	Probability IV	10-15 students
2023-24	Probability III	10-15 students
2013-21	Methods in Biostatistics I	40-60 students
2013-21	Methods in Biostatistics II	40-60 students
2007-12	Advanced Methods in Biostatistics VI (140.756) PhD core requirement	10-20 students
2007-12	Advanced Methods in Biostatistics V (140.755) PhD core requirement	10-20 students
2004-06	Advanced Methods in Biostatistics IV (140.754) PhD and ScM core requirement	10-20 students
2005-06	Advanced Methods in Biostatistics II (140.752) PhD and ScM core requirement Guest lecturer - Two weeks of lectures on linear mixed models	10-20 students
2005-06	Advanced Methods in Biostatistics III (140.753) PhD and ScM core requirement	10-20 students

Cornell University

<u>Year</u>	<u>Course</u>	<u>Enrollment</u>
2003	Basic Engineering Probability and Statistics Engineering major core requirement	200 students
2003	Applied Time Series Analysis PhD and ScM elective	10-20 students

Other

2000-2003 TA and tutor for introductory and intermediate statistics at Cornell University

1998-1999 TA and tutor for introductory and intermediate statistics and operations research at University of Bucharest

Advisees

PhD Students

Primary advisor:

Angela Zhao	Current graduate student
Mingyuan Li	Current graduate student
Yu Lu	Current graduate student
Marina Hernandez	Current graduate student
Lily Koffman	Current graduate student
Erjia Cui	Graduated 2023. First employment: Assistant Professor at University of Minnesota
Lacey Etzkorn	Graduated 2022. First employment: Postdoctoral fellow at Johns Hopkins University
Marta Karas	Graduated 2021. First employment: Postdoctoral fellow at Harvard University
Andrew Leroux	Graduated 2020. First employment: Assistant Professor at University of Colorado
Jordan Johns	Graduated 2019. First employment: Eli Lilly
Jiawei Bai	Graduated 2017. First employment: Assistant Scientist at Johns Hopkins University
John Muschelli	Graduated 2016. First employment: Assistant Scientist at Johns Hopkins University
Lei Huang	Graduated 2016. First employment: Google
Elizabeth Sweeney	Graduated 2016. First employment: Postdoctoral fellow at Rice University
Jonathan Gellar	Graduated 2015. First employment: Mathematica Policy Research
Haochang Shou	Graduated 2014. First employment: Assistant Professor at University of Pennsylvania

Jeffrey Goldsmith Graduated 2012. First employment: Assistant Professor at Columbia University
Sheng Luo Graduated 2008. First employment: Assistant Professor at University of Texas at Houston

Co-advisor:

Yu-Jen Cheng Graduated 2009. First employment: Assistant Professor at National Tsing-Hua University, Taiwan
Chongzhi Di Graduated 2009. First employment: Assistant Professor, Fred Hutchinson Cancer Center
Xianbin Li Graduated 2006. First employment: Food and Drug Administration

PhD committee member:

Yifei Sun Graduated 2015. First employment: Postdoctoral fellow at Johns Hopkins University
Shanshan Li Graduated 2013. First employment: Assistant Professor at Indiana University
Hong Zhu Graduated 2010. First employment: Assistant Professor at Ohio State University

Master Students

Angela Zhao Current master student, MS Biostatistics, First Employment: PhD student at Johns Hopkins University
Yan Zheng Graduated, MS Biostatistics
Yiwen Dong Graduated, MS Biostatistics, First Employment: PhD student at University of Pittsburgh
Shubham Tomar Current master student, MPH, Epidemiology and Biostatistics
Fassika Molla Abreha Graduated, MPH, Epidemiology and Biostatistics
Qier Meng Graduated, MS Biostatistics. First employment: Eli Lilly
Xiaoxi Hu Graduated, MS Biostatistics.
Jennifer Xu Graduated, MS Biostatistics. First employment: PhD student, Johns Hopkins University
Yeya Zheng Graduated, MS Biostatistics. First employment: Analysis Group
Chih-Kai Chang Graduated, MS Biostatistics. First employment: Blizzard
Ji-Soo Kim Graduated. MS Biostatistics. First employment: PhD student, Johns Hopkins University
Gina Norato Graduated. MS Biostatistics. First employment: National Institute for Neurological Diseases and Stroke, NIH
Andrew Leroux Graduated. MS Biostatistics. First employment: Food and Drug Administration
Bing He Graduated. MS Biostatistics. First employment: PhD student, Johns Hopkins University
Sahil Seth Graduated. MS Biostatistics. First employment: Dana Faber Cancer Center, Harvard University
Yaping Wang Graduated. MS Biostatistics. First employment: Department of Epidemiology, Johns Hopkins University
Jiawei Bai Graduated. MS Biostatistics. First employment: PhD student, Johns Hopkins University
Elizabeth Sweeney Graduated. MS Biostatistics. First employment: Department of Biostatistics. Johns Hopkins University
Samuel Ogunbo Graduated. MPH, Epidemiology and Biostatistics. First employment: Buccaneer, a General Dynamics IT Company
Vanja Sikirica Graduated. MPH, Epidemiology and Biostatistics. First employment: Shire Pharmaceuticals
Fasoro Yetunde Graduated. MS Biostatistics. First employment: PhD student, Johns Hopkins University

Post-doctoral Fellows

Xinkai Zhou Current post-doctoral student
Jacek Urbanek First employment: Assistant Professor at Johns Hopkins University
Luo Xiao First employment: Assistant Professor at North Carolina State University
Bruce Swihart First employment: Biostatistician, Biostatistics Research Branch, NIAID/NIH
Ani Eloyan First employment: Assistant Professor at Johns Hopkins University
Vadim Zipunnikov First employment: Assistant Professor at Johns Hopkins University

Sonja Greven
Ana-Maria Staicu

First employment: Assistant Professor at Ludwig Maximilian University
First employment: Assistant Professor at North Carolina State University

ACADEMIC SERVICE

Johns Hopkins Bloomberg School of Public Health

1. Member of the Appointments and Promotion Committee, 2019-2022
2. Member of the Mental Health Department Review Committee, 2019
3. Member of the committee for academic standards, 2012 - 2015
4. Search committee member for the Chair of the Mental Health Department, 2012
5. High Dimensional Data Campaign Planning Group, 2011
6. Better Environment for Research and Science (BERS) 2009-2011
7. Head of the Biostatistics Events Committee 2009-2012
8. Biostatistics Faculty Search Committee 2008-2011
9. Biostatistics second year exam committee 2004-2005
10. Curriculum committee 2004-2011
11. Faculty senate representative 2006-2008
12. Biostatistics seminar series coordinator 2004-2005
13. Cofounder of the SMART working group 2005
14. Organizer of interdepartmental Measurement error short course 2005
15. Interviewer for departmental administrator position 2006, 2011

Johns Hopkins statistical consulting

1. Biostatistics consulting center/Department consulting for Merck
2. Biostatistics center consulting for Stryker
3. Organizer for Johnson & Johnson short course on Adaptive Bayesian Designs
4. Biostatistics center consulting on clinical trials

Discipline

1. ASA Section on Statistics in Imaging, Chair, 2022
2. ASA Section on Statistics in Imaging, Chair, 2015
3. JASA T&M 2015-2017 Editor search committee member
4. ASA Section on Statistics in Imaging, Chair-Elect, 2014
5. ASA Section on Nonparametric Statistics, Program Chair, 2013
6. ENAR Regional Committee (RECOM) member, 2011-2012
7. ENAR Regional Advisory Board (RAB) member, 2011-2013
8. Program Chair, ENAR Spring Meeting, Miami, FL, 2011
9. Member ENAR Regional Advisory Board (RAB), 2011-2013
10. Program Chair, Statistical Methods for Very Large Data Sets Conference, Baltimore, MD, 2011
11. Co-organizer of the short course on "Semiparametric Regression": Oberwolfach Seminars, Germany 2009
12. Organizer of the short course "Measurement Error in Nonlinear Models": University of Bristol, UK
13. Co-organizer of the short course on "Semiparametric Regression": JSM, Washington, DC, 2009
14. Co-organizer of the short course on "Measurement Error in Nonlinear Models": ENAR, Arlington, VA 2008
15. Co-organizer of the short course on "Semiparametric Regression": JSM, Minneapolis, MN 2005
16. Organizer of invited session "Statistical Methodology for the Analysis of Sleep Studies" - ISI 2009
17. Co-organizer of Biometrics invited session "Statistical Methodology for the Analysis of Sleep Studies" – JSM 2007
18. Session chair - JSM (2006, 2007, 2010); ENAR (2007, 2011); ISI (2009)

ADDITIONAL INFORMATION

Areas of Research Interest: Nonparametric statistics, Brain Imaging, Signal processing, Wearable computing, Complex measurements, Functional Data Analysis, Bayesian analysis, Measurement error