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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	12th 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. Carroll RJ, Ruppert D, Stefanski, LA, **Crainiceanu CM**. *Measurement Error in Nonlinear Models: A Modern Perspective,* Chapman & Hall/CRC, 2006
2. **Crainiceanu CM**, Caffo B, Muschelli J. *Methods in Biostatistics with R*, Leanpub, https://leanpub.com/biostatmethods
3. **Crainiceanu CM**, Goldsmith J, Leroux A, Cui E. *Functional Data Analysis with R*, Chapman & Hall/CRC, 2023

Peer reviewed articles

Statistical methodology:

1. 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.
2. 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
3. Koffman L, Zhang Y, Harezlak J, **Crainiceanu CM**, Leroux A. *Fingerprinting walking using wrist-worn accelerometers*. Gait Posture, 2023
4. 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
5. 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
6. Cui E, **Crainiceanu CM**, Leroux A. *Additive Functional Cox Model*, Journal of Computational and Graphical Statistics, 30(3):780-793, 2021
7. Karas M, Straczkiewicz 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
8. Leroux A, Xu S, Kundu P, Muschelli J, Smirnova E, Chatterjee N, **Crainiceanu CM**. *Quantifying the Predictive Performance of Objectively Measured Physical Activity on Mortality in the UK Biobank*, Journal of Gerontology Series A Biological Sciences & Medical Sciences, 76(8):1486-1494, 2021

9. Smirnova E, Leroux A, Cao Q, Tabacu L, Zipunnikov V, Crainiceanu CM, Urbanek JK. *The Predictive Performance of Objective Measures of Physical Activity Derived from Accelerometry Data for 5-Year All-Cause Mortality in Older Adults: National Health and Nutritional Examination Survey 2003-2006*, Journal of Gerontology Series A Biological Sciences & Medical Sciences, 75(9):1779-1785, 2020
10. **Crainiceanu CM**, Crainiceanu A. *The upstrap*, Biostatistics, 21(2):e164-e166, 2020
11. Gherman A, Muschelli J, Caffo B, Crainiceanu CM. *Rxnat: An Open-Source R Package for XNAT-Based Repositories*, Frontiers Neuroinformatics,14:572068, 2020
12. Gaynanova I, Punjabi N, **Crainiceanu CM**. *Modeling continuous glucose monitoring (CGM) data during sleep*, Biostatistics, May 22:kxaa023, 2020
13. 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
14. 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
15. 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
16. Muschelli J, Sweeney E, **Crainiceanu CM**. *freesurfer: Connecting the Freesurfer software with R*, F1000 Research, 7:599, 2018
17. Smirnova E, Ivanescu A, Bai J, Crainiceanu CM. *A practical guide to big data*, Statistics and Probability Letters, 136:25-29, 2018
18. Xiao L, Li C, Checkley W, **Crainiceanu CM**. *Fast covariance estimation for sparse functional data*. Statistics and Computing, 28(3):511-522, 2018
19. 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
20. Leroux A, Xiao L, **Crainiceanu CM**, Checkley, W. *Dynamic prediction in functional concurrent regression with an application to child growth*, Statistics in Medicine, 2017
21. 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
22. Bai J, Sun Y, Schrack JA, **Crainiceanu CM**. *A two-stage model for wearable device data*, Biometrics, 2017
23. Park SY, Staicu A-M, **Crainiceanu CM**. *Simple fixed-effects inference for complex functional models*, Biostatistics, 2017
24. 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
25. Chen OY, **Crainiceanu CM**, Ogburn EL, Caffo BS, Wager TD, Lindquist MA. *High-dimensional multivariate mediation with application to neuroimaging data*, Biostatistics, 2017
26. 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
27. 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
28. Xiao L, Zipunnikov V, Ruppert D, **Crainiceanu CM**. *Fast Covariance Estimation for High-dimensional Functional Data*, Statistics and Computing, 26(1), 409-421, 2016
29. 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
30. 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
31. 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
32. Gellar JE, Colantuoni E, Needham DM, **Crainiceanu CM**. *Cox regression models with functional covariates for survival data*, Statistical Modeling, 15(3), 256-278, 2015
33. 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
34. 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
35. Shou H, Zipunnikov V, **Crainiceanu CM**, Greven S. *Structured functional principal component analysis*,

Biometrics, 71(1), 247-257, 2015

36. Gellar JE, Needham DM, **Crainiceanu CM**. *Cox Regression Models with Functional Covariates for Survival Data*, Statistical Modelling, 15(3), 256-278, 2015
37. 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
38. 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.
39. Swihart BJ, Goldsmith J, **Crainiceanu CM**. *Restricted likelihood ratio tests for functional effects in the functional linear model*, Technometrics, 56(4), 483-493, 2014
40. 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
41. 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
42. Di C, **Crainiceanu** CM, Jank WS. *Multilevel sparse functional principal component analysis*, Stat, 3, 2014
43. 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
44. Swihart BJ, Caffo BS, **Crainiceanu CM**. *A unifying framework for marginalized random intercept models of correlated binary outcomes*, International Statistical Review, 82, 2014
45. 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
46. Greven S, **Crainiceanu CM.** *On likelihood ratio testing for penalized splines*, Advances in Statistical Analysis, 97, 387-402, 2013
47. 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
48. 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
49. Eloyan A, Caffo BS, **Crainiceanu CM**. *Likelihood Based Population Independent Component Analysis*, Biostatistics, 14(3), 2013
50. 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
51. Gertheiss J, Goldsmith J, **Crainiceanu CM**, Greven S. *Longitudinal Scalar-on-Functions Regression with Application to Tractography Data*, Biostatistics, 14(3), 2013
52. 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
53. Goldsmith JA, Greven S, **Crainiceanu CM**. *Corrected confidence bands for functional data using principal components*, Biometrics, 69(1), 41-51, 2013
54. Woodard DB, **Crainiceanu CM**, Ruppert D. *Hierarchical Adaptive Regression Kernels for Regression with Functional Predictors*, Journal of Computational and Graphical Statistics, 22, 2013
55. Bai J, Goldsmith AJ, Caffo BS, Glass TA, **Crainiceanu CM**. *Movelets: A dictionary of movement*, Electronic Journal of Statistics, 6, 559-578, 2012
56. **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
57. 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
58. Goldsmith AJ, **Crainiceanu CM**, Caffo BS, Reich D. *Longitudinal Penalized Functional Regression*, Journal of the Royal Statistical Society, Series C, 61(3), 2012
59. **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
60. Staicu A-M, **Crainiceanu CM**, Reich DS, Ruppert D. *Modeling functional data with spatially heterogeneous shape characteristics*, Biometrics, 68(2), 331-343, 2012
61. 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

62. Goldsmith AJ, Wand MP, **Crainiceanu CM**. *Functional regression via variational Bayes,* Electronic Journal of Statistics, 5, 572-602, 2011
63. **Crainiceanu CM**, Caffo BS, Morris J. *Multilevel functional data analysis,* The SAGE Handbook of Multilevel Modeling, 2011
64. **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.
65. **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.
66. 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
67. Greven S, **Crainiceanu CM**, Caffo BS, Reich D. *Longitudinal functional principal component analysis*, Electronic Journal of Statistics, 4, 1022-1054, 2010
68. Goldsmith AJ, Bobb J, **Crainiceanu CM**, Caffo BS, Reich D. *Penalized functional regression*, Journal of Computational and Graphical Statistics, 20(4), 830-851, 2011
69. **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
70. 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
71. Staicu A-M, **Crainiceanu CM**, Carroll RJ. *Fast Methods for Spatially Correlated Multilevel Functional Data*, Biostatistics, 11(2), 177-194, 2010
72. 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
73. **Crainiceanu CM**, Staicu A-M, Di C-Z. *Generalized Multilevel Functional Regression*, Journal of the American Statistical Association, 104(488), 1550–1561, 2009
74. **Crainiceanu CM,** Goldsmith AJ. *Bayesian Functional Data Analysis using WinBUGS*, Journal of Statistical Software, 32(11), 2009
75. 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
76. Di C, **Crainiceanu CM**, Caffo BS, Punjabi NM. *Multilevel Functional Principal Component Analysis*, The Annals of Applied Statistics, 3(1), 458-488, 2009
77. **Crainiceanu CM.** *Comments on "Bayesian Generalized Method of Moments", by G. Yin*, Bayesian Analysis, 4(2), 213-216, 2009
78. **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
79. Luo S, **Crainiceanu CM**, Louis TA, Chatterjee N. *Bayesian Inference for Smoking Cessation with a Latent Cure State,* Biometrics, 65, 970-978, 2009
80. 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
81. 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
82. **Crainiceanu CM,** Dominici, F, Parmigiani, G. *Adjustment Uncertainty in Effect Estimation*, Biometrika, 95, 635-651, 2008
83. Dominici, F, Wang C, **Crainiceanu CM**, Parmigiani G. *Model selection and health effect estimation in Environmental Epidemiology*, Epidemiology, 19(4), 558-560, 2008
84. **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
85. 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

86. **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
87. **Crainiceanu CM**, Diggle, PJ, Rowlingson, B. Rejoinder to comments on ``*Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa",* Journal of the American Statistical Association, 103(481), 43-43, 2008
88. 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
89. Krivobokova T, **Crainiceanu CM**, Kauermann, G. *Fast Adaptive Penalised Splines,* Journal of Computational and Graphical Statistics, 17(1), 1-20, 2008
90. **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
91. **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
92. Gimenez O, **Crainiceanu CM**, Barbraud C, Jenouvrier S, Morgan BJT. *Semiparametric Regression in Capture-Recapture Modelling*, Biometrics, 62(3), 691-698, 2006
93. **Crainiceanu CM**, Ruppert D, Wand MP. *Bayesian Analysis for Penalized Spline Regression Using WinBUGS,* Journal of Statistical Software, 14(14), 2005
94. **Crainiceanu CM**, Ruppert D, Claeskens G, Wand MP. *Exact likelihood ratio tests for 7enalized splines.* Biometrika, 92(1), 91-103, 2005.
95. 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.
96. **Crainiceanu CM**, Ruppert D. *Restricted Likelihood Ratio Tests in Nonparametric Longitudinal Models.* Statistica Sinica, 14(3), 713-729, 2004.
97. **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.
98. **Crainiceanu CM**, Ruppert D. *Likelihood Ratio Tests for Goodness-of-Fit of a Nonlinear Regression Model.* Journal of Multivariate Analysis, 91, 35-52, 2004.
99. **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:

100. 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
101. Zhao A, Cui E, Leroux A, Lindquist MA, **Crainiceanu CM**. *Evaluating the prediction performance of objective physical activity measures for incident Parkinson's disease in the UK Biobank*. Journal of Neurology. 2023
102. Torbati ME, Minhas DS, Laymon CM, Maillard P, Wilson JD, Chen CL, **Crainiceanu CM**, DeCarli CS, Hwang SJ, Tudorascu DL. *MISPEL: A supervised deep learning harmonization method for multi-scanner neuroimaging data*. Medical Image Analysis. 89:102926, 2023.
103. Siddharthan T, Blair PW, Cui E, Pearce J, Herrera P, Liu G, East J, **Crainiceanu CM**, Clark DV; CCPSEI Research Team; Clinical Characterisation Protocol for Severe Infectious Diseases (CCPSEI) Research Team. *Additive value of lung ultrasound to clinical parameters for prognosticating COVID-19*. European Respiratory Journal Open Research, 2023
104. Meng Q, Cui E, Leroux A, Mowry EM, Lindquist MA, **Crainiceanu CM**. *Quantifying the Association between Objectively Measured Physical Activity and Multiple Sclerosis in the UK Biobank*. Medicine & Science in Sports & Exercise. 2023
105. Blair PW, Hwang J, Pearce J, Fong TC, Cui E, Herrera P, Liu G, **Crainiceanu CM**, Siddharthan T, Clark DV; CCPSEI Research Team. *Do worsening lung ultrasound scans identify severe COVID-19 trajectories?* Frontiers in Medicine. 9:1021929, 2022.
106. Ledbetter MK, Tabacu L, Leroux A, **Crainiceanu CM**, Smirnova E. *Cardiovascular mortality risk prediction using objectively measured physical activity phenotypes in NHANES 2003-2006*, Preventive Medicine,

164:107303, 2022.

107. Blair PW, Siddharthan T, Liu G, Bai J, Cui E, East J, Herrera P, Anova L, Mahadevan V, Hwang J, Hossen S, Seo S, Sonuga O, Lawrence J, Peters J, Cox AL, Manabe YC, Fenstermacher K, Shea S, Rothman RE, Hansoti B, Sauer L, **Crainiceanu CM**, Clark DV. *Point-of-Care Lung Ultrasound Predicts Severe Disease and Death Due to COVID-19: A Prospective Cohort Study*, Critical Care Explorations, 4(8):e0732, 2022
108. Etzkorn LH, Liu F, Urbanek JK, Heravi AS, Magnani JW, Plankey MW, Margolich JB, Witt MD, Palella FJ Jr, Haberlen SA, Wu KC, Post WS, Schrack JA, **Crainiceanu CM**. *Patterns of objectively measured physical activity differ between men living with and without HIV*, AIDS, 36(11):1553-1562, 2022
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203. 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
204. 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
205. 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
206. 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
207. 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
208. 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
209. Korzeniewska A, **Crainiceanu CM**, Franaszczuk P, Kus R, Crone N. *Dynamics of event- related causality (ERC) in brain electrical activity,* Human Brain Mapping, 2007
210. 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
211. 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
212. 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
213. 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
214. **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

215. Krivobokova, T, **Crainiceanu CM,** Kauermann, G. *Computationally Efficient Spatially Adaptive Penalized Splines*. Proceedings of the 21st Workshop on Statistical Modeling, Galway, Ireland, 2006.
216. **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:

217. **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

218. **Crainiceanu CM.** *On the likelihood function for a multivariate MA(q) process*, Annals of the University of Bucharest, 47, 125-130, 1999
219. **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. Functional Data Analysis with R, Cornell University, Ithaca, NY, 2023
2. The Functional Cox Model, ENAR, Nashville, TN, 2023
3. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, University of South Carolina, SC, 2023
4. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, University of California San Diego, CA, 2022 (virtual)
5. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, University of Haifa, Israel, 2022 (virtual)
6. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, City University of Hong Kong, China, 2021 (virtual)
7. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, University of North Carolina, Chapel Hill, NC, 2021 (virtual)
8. Longitudinal Image Analysis and Inference, Statistical Methods in Imaging, Atlanta, GA, 2021 (virtual)
9. Objective physical activity monitoring using wearable devices, University of Melbourne, Melbourne, Australia, 2020 (virtual)
10. Wearable and Implantable Technology (WIT) with Biopharmaceutical Applications, Northwestern University, IL, 2020 (virtual)
11. Wearable and Implantable Technology (WIT) with Biopharmaceutical Applications, St. Jude Children's Research Hospital, Arlington, VA, 2020 (virtual)
12. Wearable and Implantable Technology (WIT) with Biopharmaceutical Applications, Weill Cornell Medicine, New York, NY, 2020 (virtual)
13. Data visualization for wearable and implantable sensors in health research, Johns Hopkins University, Baltimore, MD, 2020
14. Wearable and Implantable Technology (WIT), Banff, Canada, 2020
15. Statistical Methods for Wearable and Implantable Technologies (WIT), University of Kansas Medical Center, Kansas City, KS, 2019
16. Biostatistical Methods for Wearable and Implantable Technology (WIT), Virginia Commonwealth University, Richmond, VA, 2019
17. Biostatistical Methods for Wearable and Implantable Technology, Rice University, Houston, TX, 2018
18. Biostatistical Methods for Wearable and Implantable Technology, Georgetown University, Washington, DC, 2018
19. Biostatistical Methods for Wearable and Implantable Technology, University of Maryland, College Station, MD, 2018
20. Biostatistical Methods for Wearable and Implantable Technology, University of Pittsburgh, Pittsburgh, PA, 2018
21. Biostatistical Methods for Wearable and Implantable Technology, University of Utah, Salt Lake, UT, 2018
22. Biostatistical Methods for Wearable and Implantable Technology, Old Dominion University, Norfolk, VA, 2018
23. Emerging Biostatistical Problems in Wearable and Implantable Technology, ENAR, Atlanta, 2018

24. Biostatistical Methods for Wearable and Implantable Technology, Harvard, Boston, MA, 2018
25. Recent Developments in Statistical Methods for Analyzing Big and Complex Neuroimaging Data, JSM, Baltimore, MD, 2017
26. Neuroconductor: Building the R imaging Community, ENAR, Washington, DC, 2017
27. Relating Multi-Sequence Longitudinal Intensity Profiles and Clinical Covariates in Incident Multiple Sclerosis Lesions, ENAR, Washington, DC, 2017
28. Statistical Segmentation of Multiple Sclerosis Lesions on Structural Magnetic Resonance Imaging, JSM, Chicago, IL, 2016
29. Functional Regression Methods for Densely-Sampled Biomarkers in the ICU, ENAR, Austin, TX, 2016
30. Stroke Localization and Association with Health Outcomes Using Clinical CT Images, JSM, Seattle, WA, 2015
31. Not Everybody, but Some People Move Like You, ENAR, Miami, FL, 2015
32. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, George Washington University, DC, 2014
33. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, Duke, NC, 2014
34. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, University of Washington, WA, 2014
35. Variable-Domain Functional Data Analysis, ENAR, MD, 2014
36. Coming to our sensors: Why body language is harder to decode than natural language. University of Pennsylvania, Philadelphia, PA, 2013
37. Coming to our sensors: Why body language is harder to decode than natural language. Brigham Young University, Provo, UT, 2012
38. Longitudinal analysis of high resolution structural brain images, Brown University, Providence, RI, 2012
39. Longitudinal analysis of high resolution structural brain images, Florida State University, Tallahassee, FL, 2012
40. Longitudinal analysis of high resolution structural brain images, Statistiche Woche, Vienna, Austria, 2012
41. Calibration of Ultra High-Dimensional Data with Application to DTI Tractography. JSM, San Diego, CA, 2012
42. Movelets: A dictionary of Movement, Rice University, Houston, TX, 2012
43. SubLIME: Automatic lesion incidence estimation and detection using multi-modality longitudinal MRIs, Indiana University, Indianapolis, IN, 2012
44. Movelets: A dictionary of Movement, ENAR, Washington, DC, 2012
45. Movelets: A dictionary of Movement, Emory University, GA, 2011
46. Movelets: A dictionary of Movement, Johns Hopkins University, MD, 2011
47. My first 100 terabytes of data: Statistical principles and methods, ENAR, Miami, FL, 2011
48. Population-wide model-free quantification of brain blood barrier dynamics in Multiple Sclerosis: Cornell University, NY, 2011
49. Population-wide model-free quantification of brain blood barrier dynamics in Multiple Sclerosis: University of North Carolina at Chapel Hill, NC, 2011
50. Longitudinal Functional Principal Component Analysis: University of Michigan, MI, 2011
51. Longitudinal Functional Principal Component Analysis: North Carolina State University, NC, 2010
52. My first 100 terabytes of data: SAMSI workshop, Durham, NC, 2010
53. High dimensional multilevel functional principal component analysis: JSM conference, Vancouver, Canada, 2010
54. Longitudinal Functional Principal Component Analysis: SRCOS conference, Virginia Beach, VA, 2010
55. The rise of data and Biostatistics in the 21st century: University of Ottawa, Ottawa, Canada, 2010
56. My first 100 terabytes of data: UMBC, Baltimore, MD 2010
57. Analysis of Populations of Images: Johns Hopkins University, Baltimore, MD 2010
58. Longitudinal Functional Principal Component Analysis: University of Wisconsin-Madison, Madison, WI, 2010
59. Longitudinal Functional Principal Component Analysis: Johns Hopkins University, Baltimore, MD 2010
60. Longitudinal Object Analysis: Yale University, New Haven, CT 2009
61. Analysis of Populations of Images: UMBC, Baltimore, MD 2009

62. Short Course on Semiparametric Regression: Oberwolfach, Germany, 2009
63. Analysis of Populations of Images: Cornell University, Ithaca, NY 2009
64. Longitudinal Object Analysis: Duke University, Durham, NC 2009
65. Longitudinal Object Analysis: University of Bristol, UK, 2009
66. Longitudinal Object Analysis: Penn State University, University Park, PA 2008
67. Longitudinal Object Analysis: Thomas Jefferson University, Philadelphia, PA 2008
68. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: JSM, invited JASA CS discussion paper, Denver, CO, 2008
69. Cox models with smooth functional effects of covariates measured with error: SRCOS SRC, Charleston, SC, 2008
70. Cox models with smooth functional effects of covariates measured with error: ICSA, Piscataway, NJ, 2008
71. Sleep Studies: Conference in honor of David Ruppert's 60th birthday, Keystone, CO, 2008
72. Multilevel Functional Principal Component Analysis: George Washington University, DC, 2007
73. Multilevel Functional Principal Component Analysis: CRM-ISM-GERAD Statistics Colloquium Series (jointly organized by the four Universities of Montreal), Montreal, Canada, 2007
74. Multilevel Functional Principal Component Analysis: Georgetown University, DC, 2007
75. Multilevel Functional Principal Component Analysis: Cornell University, Ithaca, NY, 2007
76. Multilevel Nonparametric Models: JSM, Salt Lake City, UT, 2007
77. Principal curves with application to SPECT colon imaging Keystone, CO, 2007
78. Likelihood Ratio Tests for Zero Variance in Linear Mixed Models: ENAR, Atlanta, GA, 2007
79. Short Course on Semiparametric Regression: University of Bucharest, Romania, 2006
80. Cox models with nonlinear effect of covariates measured with error: A case study of chronic kidney disease incidence: National Cancer Institute, Bethesda, MD, 2006
81. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: University of Bucharest, Romania, 2006
82. Cox models with nonlinear effect of covariates measured with error: A case study of chronic kidney disease incidence: JSM, Seattle, WA, 2006
83. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa**:** JSM, Seattle, WA, 2006
84. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa**:** Ludwig-Maximilians-Universität, Munich, Germany, 2006
85. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa**:** University of Bielefeld, Germany, 2006
86. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa**:** Columbia University, 2006
87. Adjustment Uncertainty in Effect Estimation: University of Pennsylvania, 2006
88. STEADy: Structured Estimation under Adjustment Uncertainty: University of Maryland, 2005
89. STEADy: A Case Study in Air Pollution and Mortality: WNAR, Fairbanks AK 2005
90. Short Course on Semiparametric Regression: JSM, Minneapolis, MN 2005
91. STEADy: A Case Study in Air Pollution and Mortality: JSM, Minneapolis, MN 2005
92. Spatially Adaptive Bayesian P-Splines with Heteroscedastic Errors: ENAR, Austin, TX 2005. IMS invited presentation
93. Spatially Adaptive Bayesian P-Splines with Heteroscedastic Errors: University of Pennsylvania, 2005
94. Spatially Adaptive Bayesian P-Splines with Heteroscedastic Errors: Lancaster University, UK, 2005
95. Bayesian Model Averaging: Johns Hopkins University, 2004
96. Some Research Problems with Applications: Johns Hopkins University, 2004
97. Likelihood Ratio Tests for Zero Random Effects Variance: Cornell University, 2002, 2004.
98. Likelihood Ratio Tests for Zero Random Effects Variance: Johns Hopkins University, 2003.
99. Likelihood Ratio Tests for Zero Random Effects Variance: Syracuse University, NY, 2004.
100. Likelihood Ratio Tests for Zero Random Effects Variance: University of Rochester, 2004.
101. Non-parametric Bayesian Analysis in WinBUGS, Racebrook Environmental Statistics Workshop, November 1-3, 2002
102. Data Dependent Bandwidth Choice: Source of Non-monotonic Power for Tests of Shift in Mean, Cornell University, 2002
103. Bayesian Hierarchical Modeling to Assess Pathogen Risk in Natural Water Supplies, Case Studies in Bayesian Statistics – Workshop 6, Carnegie Mellon University, 2001

104. Pathogen Risk Assessment in Water Supplies (An application of Bayesian hierarchical modeling), Environmental Statistics Conference, Cornell/Harvard, 2000
105. 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: 2022-2027
Effort: 20%

Title: Novel application of digital signals of movement, sleep, and heart rhythms for detection of Alzheimer's Disease and Related Dementia (Co-PI)
Agency: NIH/NIA
Period: 2022-2027
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: Data Center for Acute to Chronic Pain Biosignatures
Agency: NIH/NIDA
Period: 2019 – 2023
Effort: 20%

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

Title: Imaging Neurodegenration 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/NICHD
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: Electrocorticographic 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

Year	Course	Enrollment
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

Year	Course	Enrollment
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:

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

Fassika Molla Abreha	Current master student
Shubham Tomar	Current master student
Angela Zhao	Current master student
Yiwen Dong	Current master student
Yan Zheng	Current master student
Qier Meng	Graduated, MS Biostatistics. First employment: Eli Lilly
Xiaoxi Hu	Graduated, MS Bostatistics.
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. MS Public Health, Epidemiology and Biostatistics. First employment: Buccaneer, a General Dynamics IT Company
Vanja Sikirica	Graduated. MS Public Health, 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 PhD 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	First employment: Assistant Professor at Ludwig Maximilian University
Ana-Maria Staicu	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