Ciprian M. Craniceanu

PERSONAL DATA

Johns Hopkins University
Department of Biostatistics
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EDUCATION

2003	Ph.D., Statistics, Cornell University
2002	M.S., Statistics, Cornell University
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 for Professor David Ruppert 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, 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; Technometrics; Test
- Book reviewer for: Chapman-Hall; Springer Verlag

Memberships
American Statistical Association
The International Biometric Society

HONORS AND AWARDS

2017	Myrto Lefkopoulou Distinguished Lectureship Award: Harvard University
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

<u>Summary</u>

Publications: 1 book, 150 peer-reviewed articles, 2 software packages
Citations – as determined by Google Scholar: 9485 total citations, 2500 citations in 2016-2017
Research collaborators: 30+

<u>Books</u>

1. Carroll RJ, Ruppert D, Stefanski, LA, **Crainiceanu CM**. *Measurement Error in Nonlinear Models: A Modern Perspective,* Chapman & Hall/CRC, 2006

<u>Peer reviewed articles</u>

Statistical methodology

1. Leroux A, Xiao L, **Crainiceanu CM**, Checkley, W. *Dynamic prediction in functional concurrent regression with an application to child growth*, <u>Statistics in Medicine</u>, 2017
2. Bai J, Sun Y, Schrack JA, **Crainiceanu CM**. *A two-stage model for wearable device data*, <u>Biometrics</u>, 2017
3. Park SY, Staicu A-M, **Crainiceanu CM**. *Simple fixed-effects inference for complex functional models*, <u>Biostatistics</u>, 2017
4. 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*, <u>Biostatistics</u>, 18(2), 214-229, 2017
5. Chen OY, **Crainiceanu CM**, Ogburn EL, Caffo BS, Wager TD, Lindquist MA. *High-dimensional multivariate mediation with application to neuroimaging data*, <u>Biostatistics</u>, 2017
6. Tine F, Attanasio M, Muggeo VMR, **Crainiceanu CM**. *Evidence of bias in randomized clinical trials of hepatitis C interferon therapies*, <u>Clinical trials</u>, 14(5), 483-488, 2017
7. Yue C, Zipunnikov V, Bazin PL, Pham D, Reich D, **Crainiceanu CM**, Caffo B. *Parameterization of white matter manifold-like structures using principal surfaces*, <u>Journal of the American Statistical Association</u>, 111(515), 1050-1060, 2016
8. Xiao L, Zipunnikov V, Ruppert D, **Crainiceanu CM**. *Fast Covariance Estimation for High-dimensional Functional Data*, <u>Statistics and Computing</u>, 26(1), 409-421, 2016
9. Sweeney E, **Crainiceanu CM**, Gertheiss J. *Testing differentially expressed genes in dose-response studies and with ordinal phenotypes*, <u>Statistical Applications in Genetics and Molecular Biology</u>, 15(3): 213-235, 2016
10. 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*, <u>Biometrics</u>, 72(2), 513-524, 2016
11. Shou H, Shinohara RT, Liu H, Reich DS, **Crainiceanu CM**. *Soft Null Hypotheses: A Case Study of Image Enhancement Detection in Brain Lesions*, <u>Journal of Computational and Graphical Statistics</u>, 25, 570-588, 2016
12. Gellar JE, Colantuoni E, Needham DM, **Crainiceanu CM**. *Cox regression models with functional covariates for survival data*, <u>Statistical Modeling</u>, 15(3), 256-278, 2015
13. 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*, <u>NeuroImage</u>, 112, 14-29, 2015
14. 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*, <u>Biostatistics</u>, 16(2), 352-367, 2015

15. Shou H, Zipunnikov V, **Crainiceanu CM**, Greven S. *Structured functional principal component analysis*, Biometrics, 71(1), 247-257, 2015

16. Gellar JE, Needham DM, **Crainiceanu CM**. *Cox Regression Models with Functional Covariates for Survival Data*, Statistical Modelling, 15(3), 256-278, 2015

17. 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

18. 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.

19. Swihart BJ, Goldsmith J, **Crainiceanu CM**. *Restricted likelihood ratio tests for functional effects in the functional linear model*, Technometrics, 56(4), 483-493, 2014

20. 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

21. 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

22. Di C, **Crainiceanu** CM, Jank WS. *Multilevel sparse functional principal component analysis*, Stat, 3, 2014

23. 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

24. Swihart BJ, Caffo BS, **Crainiceanu CM**. *A unifying framework for marginalized random intercept models of correlated binary outcomes*, International Statistical Review, 82, 2014

25. 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

26. Greven S, **Crainiceanu CM.** *On likelihood ratio testing for penalized splines*, Advances in Statistical Analysis, 97, 387-402, 2013

27. 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

28. 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

29. Eloyan A, Caffo BS, **Crainiceanu CM**. *Likelihood Based Population Independent Component Analysis*, Biostatistics, 14(3), 2013

30. 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

31. Gertheiss J, Goldsmith J, **Crainiceanu CM**, Greven S. *Longitudinal Scalar-on-Functions Regression with Application to Tractography Data*, Biostatistics, 14(3), 2013

32. 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

33. Goldsmith JA, Greven S, **Crainiceanu CM**. *Corrected confidence bands for functional data using principal components*, Biometrics, 69(1), 41-51, 2013

34. Woodard DB, **Crainiceanu CM**, Ruppert D. *Hierarchical Adaptive Regression Kernels for Regression with Functional Predictors*, Journal of Computational and Graphical Statistics, 22, 2013

35. Bai J, Goldsmith AJ, Caffo BS, Glass TA, **Crainiceanu CM**. *Movelets: A dictionary of movement*, Electronic Journal of Statistics, 6, 559-578, 2012

36. **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

37. 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

38. Goldsmith AJ, **Crainiceanu CM**, Caffo BS, Reich D. *Longitudinal Penalized Functional Regression*, Journal of the Royal Statistical Society, Series C, 61(3), 2012

39. **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

40. Staicu A-M, **Crainiceanu CM**, Reich DS, Ruppert D. *Modeling functional data with spatially heterogeneous shape characteristics*, Biometrics, 68(2), 331-343, 2012

41. 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

42. Goldsmith AJ, Wand MP, **Crainiceanu CM**. *Functional regression via variational Bayes,* Electronic Journal of Statistics, 5, 572-602, 2011

43. **Crainiceanu CM**, Caffo BS, Morris J. *Multilevel functional data analysis,* The SAGE Handbook of Multilevel Modeling, 2011

44. **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.

45. **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.

46. 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

47. Greven S, **Crainiceanu CM**, Caffo BS, Reich D. *Longitudinal functional principal component analysis*, Electronic Journal of Statistics, 4, 1022-1054, 2010

48. Goldsmith AJ, Bobb J, **Crainiceanu CM**, Caffo BS, Reich D. *Penalized functional regression*, Journal of Computational and Graphical Statistics, 20(4), 830-851, 2011

49. **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

50. 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

51. Staicu A-M, **Crainiceanu CM**, Carroll RJ. *Fast Methods for Spatially Correlated Multilevel Functional Data*, Biostatistics, 11(2), 177-194, 2010

52. 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

53. **Crainiceanu CM**, Staicu A-M, Di C-Z. *Generalized Multilevel Functional Regression*, Journal of the American Statistical Association, 104(488), 1550–1561, 2009

54. **Crainiceanu CM,** Goldsmith AJ. *Bayesian Functional Data Analysis using WinBUGS*, Journal of Statistical Software, 32(11), 2009

55. 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

56. Di C, **Crainiceanu CM**, Caffo BS, Punjabi NM. *Multilevel Functional Principal Component Analysis,* The Annals of Applied Statistics, 3(1), 458-488, 2009

57. **Crainiceanu CM.** *Comments on "Bayesian Generalized Method of Moments", by G. Yin*, Bayesian Analysis, 4(2), 213-216, 2009

58. **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

59. Luo S, **Crainiceanu CM**, Louis TA, Chatterjee N. *Bayesian Inference for Smoking Cessation with a Latent Cure State,* Biometrics, 65, 970-978, 2009

60. 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

61. 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

62. **Crainiceanu CM,** Dominici, F, Parmigiani, G. *Adjustment Uncertainty in Effect Estimation*, Biometrika, 95, 635-651, 2008

63. **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

64. 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

65. **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

66. **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

67. 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

68. Krivobokova T, **Crainiceanu CM**, Kauermann, G. *Fast Adaptive Penalised Splines,*

69. Journal of Computational and Graphical Statistics, 17(1), 1-20, 2008

70. **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

71. **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

72. Gimenez O, **Crainiceanu CM**, Barbraud C, Jenouvrier S, Morgan BJT. *Semiparametric Regression in Capture-Recapture Modelling*, Biometrics, 62(3), 691-698, 2006

73. **Crainiceanu CM**, Ruppert D, Wand MP. *Bayesian Analysis for Penalized Spline Regression Using WinBUGS,* Journal of Statistical Software, 14(14), 2005

74. **Crainiceanu CM**, Ruppert D, Claeskens G, Wand MP. *Exact likelihood ratio tests for penalised splines.* Biometrika, 92(1), 91-103, 2005.

75. 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.

76. **Crainiceanu CM**, Ruppert D. *Restricted Likelihood Ratio Tests in Nonparametric Longitudinal Models.* Statistica Sinica, 14(3), 713-729, 2004.

77. **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.

78. **Crainiceanu CM**, Ruppert D. *Likelihood Ratio Tests for Goodness-of-Fit of a Nonlinear Regression Model.* Journal of Multivariate Analysis, 91, 35-52, 2004.

79. **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

80. Urbanek JK, Spira AP, Di J, Leroux A, **Crainiceanu CM**, Zipunnikov V. *Epidemiology of objectively measured bedtime and chronotype in US adolescents and adults: NHANES 2003-2006*, Chronobiology International, 28, 1-19, 2017

81. Aurora RN, **Crainiceanu CM**, Gottlieb DJ, Kim JS, Punjabi NM. *Obstructive Sleep Apnea During Rapid Eye Movement Sleep and Cardiovascular Disease*, American Journal of Respiratory and Critical Care Medicine, 2017

82. Oh J, Bakshi R, Calabresi PA, **Crainiceanu CM**, Henry RG, Nair G, Papinutto N, Constable RT, Reich DS, Pelletier D, Rooney W, Schwartz D, Tagge I, Shinohara RT, Simon JH, Sicotte NL; NAIMS Cooperative Steering Committee. *The NAIMS cooperative pilot project: Design, implementation and future directions*, Multiple Sclerosis, 2017

83. Ruiz-Hernandez A, Navas-Acien A, Pastor-Barriuso R, **Crainiceanu CM**, Redon J, Guallar E, Tellez-Plaza M. *Declining exposures to lead and cadmium contribute to explaining the reduction in cardiovascular mortality in the US population, 1988-2004*, International Journal of Epidemiology, 46(6), 1903-1912, 2017

84. Urbanek JK, Zipunnikov V, Harris T, **Crainiceanu CM**, Harezlak J, Glynn NW. *Validation of gait characteristics extracted from raw accelerometry during walking against measures of physical function, mobility, fatigability, and fitness*, Journal of Gerontology Series A: Biological Sciences & Medical Sciences, 2017

85. Shou H, Cui L, Hickie I, Lameira D, Lamers F, Zhang J, **Crainiceanu CM**, Zipunnikov V, Merikangas KR. *Dysregulation of objectively assessed 24-hour motor activity patterns as a potential marker for bipolar I disorder: results of a community-based family study*, Translational Psychiatry, 7(8), 2017

86. Mateen FJ, Grau-Perez M, Pollak JS, Moon KA, Howard BV, Umans JG, Best LG, Francesconi KA, Goessler W, Crainiceanu CM, Guallar E, Devereux RB, Roman MJ, Navas-Acien A. *Chronic arsenic exposure and risk of carotid artery disease: The Strong Heart Study*, Environmental research, 157, 127-134, 2017

87. Carass A, Roy S, Jog A, Cuzzucreo JL, Magrath E, Gherman A, Button J, Nguyen J, Bazin PL, Calabresi PA, **Crainiceanu CM**, Ellingsen LM, Reich DS, Prince JL, Pham DL. *Longitudinal multiple sclerosis lesion segmentation data resource*, Data Brief, 12, 346-350, 2017

88. Cooper R, Huang L, Hardy R, Crainiceanu A, Harris T, Schrack JA, **Crainiceanu CM**, Kuh D. *Obesity history and daily patterns of physical activity at age 60-64 Years: Findings from the MRC National Survey of Health and Development*, Journal of Gerontology Series A: Biological Sciences & Medical Sciences, 72(10), 1424-1430, 2017

89. Muschelli J, Sweeney EM, Ullman NL, Vespa P, Hanley DF, Crainiceanu CM. *PItcHPERFeCT: Primary Intracranial Hemorrhage Probability Estimation using Random Forests on CT*, Neuroimage Clinical, 14, 379-390, 2017

90. Carass A, Roy S, Jog A, Cuzzocreo JL, Magrath E, Gherman A, Button J, Nguyen J, Prados F, Sudre CH, Jorge Cardoso M, Cawley N, Ciccarelli O, Wheeler-Kingshott CAM, Ourselin S, Catanese L, Deshpande H, Maurel P, Commowick O, Barillot C, Tomas-Fernandez X, Warfield SK, Vaidya S, Chunduru A, Muthuganapathy R, Krishnamurthi G, Jesson A, Arbel T, Maier O, Handels H, Iheme LO, Unay D, Jain S, Sima DM, Smeets D, Ghafoorian M, Platel B, Birenbaum A, Greenspan H, Bazin PL, Calabresi PA, **Crainiceanu CM**, Ellingsen LM, Reich DS, Prince JL, Pham DL. *Longitudinal multiple sclerosis lesion segmentation: Resource and challenge*, Neuroimage, 148, 77-102, 2017

91. Urbanek JK, Harezlak J, Glynn NW, Harris T, **Crainiceanu CM**, Zipunnikov V. *Stride variability measures derived from wrist- and hip-worn accelerometers*, Gait and Posture, 52, 217-223, 2017

92. Tudorascu DL, Karim HT, Maronge JM, Alhilali L, Fakhran S, Aizenstein HJ, Muschelli J, **Crainiceanu CM**. *Reproducibility and bias in healthy brain segmentation: Comparison of two popular Neuroimaging platforms*, Frontiers in Neuroscience, 10, 503, 2017

93. Strączkiewicz M, Urbanek JK, Fadel WF, **Crainiceanu CM**, Harezlak J. *Automatic car driving detection using raw accelerometry data*, Physiological measurement, 37(10), 1757-1769, 2016

94. Bai J, Di C, Xiao L, Evenson KR, LaCroix AZ, **Crainiceanu CM**, Buchner DM. *An Activity Index for Raw Accelerometry Data and Its Comparison with Other Activity Metrics*, PLoS One, 2016

95. Aurora RN, Kim JS, **Crainiceanu CM**, O'Hearn D, Punjabi NM. *Habitual Sleep Duration and All-Cause Mortality in a General Community Sample*, Sleep, 39(11), 1903-1909, 2016

96. Putcha N, **Crainiceanu CM**, Norato G, Samet J, Quan SF, Gottlieb DJ, Redline S, Punjabi NM. *Influence of Lung Function and Sleep-disordered Breathing on All-Cause Mortality: A Community Based Study*, American Journal of Respiratory and Critical Care Medicine, 194(8), 1007-1014, 2016

97. Fortin JP, Sweeney EM, Muschelli J, **Crainiceanu CM**, Shinohara RT; Alzheimer's Disease Neuroimaging Initiative. *Removing inter-subject technical variability in magnetic resonance imaging studies*, Neuroimage, 132, 198-212, 2016

98. Grajeda LM, Ivanescu A, Saito M, **Crainiceanu** C, Jaganath D, Gilman RH, Crabtree JE, Kelleher D, Cabrera L, Cama V, Checkley W. *Modelling subject-specific childhood growth using linear mixed-effect models with cubic regression splines*, Emerging Themes in Epidemiology, 13, 1, 2016

99. Sweeney EM, Shinohara RT, Dewey BE, Schindler MK, Muschelli J, Reich DS, **Crainiceanu CM**, Eloyan A. *Relating multi-sequence longitudinal intensity profiles and clinical covariates in incident multiple sclerosis*, Neuroimage Clinical, 10, 1-17, 2015

100. Ho V, **Crainiceanu CM**, Punjabi NM, Redline S, Gottlieb DJ. *Calibration Model for Apnea-Hypopnea Indices: Impact of Alternative Criteria for Hypopneas*, Sleep, 38(12), 1887-1892, 2015

101. Muschelli J, Ullman NL, Sweeney EM, Eloyan A, Martin N, Vespa P, Hanley DF, **Crainiceanu CM**. Quantitative Intracerebral Hemorrhage Localization, Stroke, 46(11), 3270-3273, 2015

102. Pichard LE, **Crainiceanu CM**, Pashai P, Kostuk EW, Fujioka A, Shirahata M. Book chapter: *Role of BK Channels in Murine Carotid Body Neural Responses in vivo*, Advances in Experimental Medicine and Biology, 860, 325-333, 2015

103. Al-Louzi OA, Bhargava P, Newsome SD, Balcer LJ, Frohman EM, **Crainiceanu C**, Calabresi PA, Saidha S. *Outer retinal changes following acute optic neuritis*, Multiple Sclerosis Journal, 22(3), 362-372, 2015

104. Bhargava P, Steele SU, Waubant E, Revirajan NR, Marcus J, Dembele M, Cassard SD, Hollis BW, **Crainiceanu C**, Mowry EM. *Multiple sclerosis patients have a diminished serologic response to vitamin D supplementation compared to healthy controls*, Multiple Sclerosis Journal, 22(6), 753-760, 2016

105. Saidha S, Al-Louzi O, Ratchford JN, Bhargava P, Oh J, Newsome SD, Prince JL, Pham D, Roy S, van Zijl P, Balcer LJ, Frohman EM, Reich DS, **Crainiceanu C**, Calabresi PA, *Optical coherence tomography reflects brain atrophy in MS: a four year study*, Annals of Neurology, 78(5), 801-803, 2015

106. Steeves JA, Murphy RA, **Crainiceanu CM**, Zipunnikov V, Van Domelen DR, Harris TB. *Daily patterns of physical activity by type 2 diabetes definition: Comparing diabetes, prediabetes, and participants with normal glucose*

levels in NHANES 2003–2006, <u>Preventive Medicine Reports</u>, 2, 152-157, 2015

107. Swihart BJ, Punjabi NM, **Crainiceanu CM**. *Modeling sleep fragmentation in sleep hypnograms: An instance of fast, scalable discrete-state, discrete-time analyses,* <u>Computational Statistics and Data Analysis</u>, 89, 1-11, 2015

108. Cooper R, Huang L, Hardy R, Kuh D, **Crainiceanu C** *OP08 Associations of contemporaneous bmi and obesity history with daily patterns of physical activity at age 60–64 years: findings from a british birth cohort study,* <u>Journal of Epidemiology and Community Health</u>, 69 (Suppl 1), A12-A12, 2015

109. Muschelli J, Ullman NL, Mould WA, Vespa P, Hanley DF, **Crainiceanu CM**. *Validated automatic brain extraction of head CT images,* <u>NeuroImage</u>, 114, 379-385, 2015

110. Muschelli J, Sweeney E, Lindquist M, **Crainiceanu C**. *fslr: Connecting the FSL Software with R,* <u>R Journal</u>, 7(1), 163-175, 2015

111. Schrack, J Zipunnikov V, **Crainiceanu C**. *Electronic Devices and Applications to Track Physical Activity,* <u>JAMA</u>, 313(20), 2079-2080, 2015

112. Schrack JA, Zipunnikov V, Goldsmith J, Bai J, Simonsick EM, **Crainiceanu CM**, Ferrucci L. *Assessing the "physical cliff": detailed quantification of age-related differences in daily patterns of physical activity,* <u>Journal of Gerontology Series A</u>, 69, 2014

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117. Scialla JJ, Kao L, **Crainiceanu CM**, Sozio SM, Oberai PC, Shafi T, Coresh J, Powe NR, Plantinga LC, Jaar BG, Parekh RS. *Biomarkers of Vascular Calcification and Mortality in Patients with End-Stage Renal Disease,* <u>Clinical Journal of the American Society of Nephrology</u>, 9(4), 745-755, 2014

118. Jones BC, Govind N, Shea CD, **Crainiceanu CM**, Cortese IC, Reich D. *Quantification of Multiple-Sclerosis-Related Brain Atrophy in Two Heterogeneous MRI Datasets Using Mixed-Effects Modeling,* <u>NeuroImage Clinical</u>, 3, 171-179, 2013

119. Lindquist MA, Caffo BS, **Crainiceanu CM**. *Ironing out the statistical wrinkles in "ten ironic rules",* <u>Neuroimage</u>, 81, 499-502, 2013

120. Sweeney E, Shinohara RT, Shie N, Mateen F, Chudgar A, Cuzzocreo J, Calabresi P, Pham D, Reich D, **Crainiceanu CM**. *OASIS is Automated Statistical Inference for Segmentation, with applications to multiple sclerosis lesion segmentation in MRI.* <u>NeuroImage Clinical</u>, 2, 402-413, 2013

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122. Sweeney E, Shinohara RT, Shea C, Reich D, **Crainiceanu CM**. *Automatic lesion incidence estimation and detection in multiple sclerosis using multisequence longitudinal MRIs.* <u>American Journal of Neuroradiology</u>, 34(1), 68-73, 2013

123. Lauzon CB, **Crainiceanu CM**, Caffo BS, Landman BA. *Assessment of bias in experimentally measured diffusion tensor imaging parameters using SIMEX.* <u>Magnetic Resonance Medicine</u>, 69(3), 891-902, 2013

124. Saidha S, Sotirchos ES, Ibrahim MA, **Crainiceanu CM**, Gelfand JM, Sepah YJ, Ratchford JN, Oh J, Seigo MA, Newsome SD, Balcer LJ, Frohman EM, Green AJ, Nguyen QD, Calabresi PA. *Microcystic macular oedema, thickness of the inner nuclear layer of the retina, and disease characteristics in multiple sclerosis: a retrospective study.* <u>Lancet Neurology</u>, 11(11), 2012

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126. 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).* <u>BMC Bioinformatics</u>, 13, 234, 2012

127. 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

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129. 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

130. 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

131. 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

132. 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

133. 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

134. 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

135. 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

136. 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

137. 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

138. 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

139. 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

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142. 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

143. Dominici, F, Wang C, **Crainiceanu CM**, Parmigiani G. *Model selection and health effect estimation in Environmental Epidemiology*, Epidemiology, 19(4), 558-560, 2008

144. 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

145. Korzeniewska A, **Crainiceanu CM**, Franaszczuk P, Kus R, Crone N. *Dynamics of event- related causality (ERC) in brain electrical activity,* Human Brain Mapping, 2007

146. 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

147. 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, <u>Journal of the American Society of Nephrology</u>, 18, 1307-1315, 2007

148. 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*, <u>Brain,</u> 1556-1570, 2005

149. 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, <u>Preventive Veterinary Medicine</u>, 60(4), 281- 295, 2003

150. **Crainiceanu CM**, Stedinger JR, Ruppert D, Behr CT. *Modeling the National distribution of Waterborne Pathogen Concentrations with Application to Cryptosporidium parvum,* <u>Water Resources Research,</u> 39(9), 1-15, 2003

Proceedings

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

152. **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

153. **Crainiceanu CM.** *Review of the book Nonparametric Regression Methods for Longitudinal Data Analysis: Mixed-Effects Modeling Approaches* by H. Wu and J.T. Zhang, <u>Journal of American Statistical Association</u>, 102 (478), 2007

154. **Crainiceanu CM.** *On the likelihood function for a multivariate MA(q) process*, <u>Annals of the University of Bucharest</u>, 47, 125-130, 1999

155. **Crainiceanu CM.** *On the optimum benefit in two and three person games*, <u>Annals of the University of Bucharest</u>, 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. Biostatistical Methods for Wearable and Implantable Technology, University of Pittsburgh, Pittsburgh, PA. 2018
2. Biostatistical Methods for Wearable and Implantable Technology, University of Utah, Salt Lake, UT. 2018
3. Biostatistical Methods for Wearable and Implantable Technology, Old Dominion University, Norfolk, VA, 2018
4. Emerging Biostatistical Problems in Wearable and Implantable Technology, ENAR, Atlanta, 2018
5. Biostatistical Methods for Wearable and Implantable Technology, Harvard, Boston, MA, 2018
6. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, George Washington University, DC, 2014
7. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, Duke, NC, 2014
8. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, University of Washington, WA, 2014
9. Variable-Domain Functional Data Analysis, ENAR, MD, 2014
10. Coming to our sensors: Why body language is harder to decode than natural language. University of Pennsylvania, Philadelphia, PA, 2013
11. Coming to our sensors: Why body language is harder to decode than natural language. Brigham Young University, Provo, UT, 2012
12. Longitudinal analysis of high resolution structural brain images, Brown University, Providence, RI,

2012

13. Longitudinal analysis of high resolution structural brain images, Florida State University, Tallahassee, FL, 2012
14. Longitudinal analysis of high resolution structural brain images, Statistiche Woche, Vienna, Austria, 2012
15. Calibration of Ultra High-Dimensional Data with Application to DTI Tractography. JSM, San Diego, CA, 2012
16. Movelets: A dictionary of Movement, Rice University, Houston, TX, 2012
17. SubLIME: Automatic lesion incidence estimation and detection using multi-modality longitudinal MRIs, Indiana University, Indianapolis, IN, 2012
18. Movelets: A dictionary of Movement, ENAR, Washington, DC, 2012
19. Movelets: A dictionary of Movement, Emory University, GA, 2011
20. Movelets: A dictionary of Movement, Johns Hopkins University, MD, 2011
21. My first 100 terabytes of data: Statistical principles and methods, ENAR, Miami, FL, 2011
22. Population-wide model-free quantification of brain blood barrier dynamics in Multiple Sclerosis: Cornell University, NY, 2011
23. Population-wide model-free quantification of brain blood barrier dynamics in Multiple Sclerosis: University of North Carolina at Chapel Hill, NC, 2011
24. Longitudinal Functional Principal Component Analysis: University of Michigan, MI, 2011
25. Longitudinal Functional Principal Component Analysis: North Carolina State University, NC, 2010
26. My first 100 terabytes of data: SAMSI workshop, Durham, NC, 2010
27. High dimensional multilevel functional principal component analysis: JSM conference, Vancouver, Canada, 2010
28. Longitudinal Functional Principal Component Analysis: SRCOS conference, Virginia Beach, VA, 2010
29. The rise of data and Biostatistics in the 21st century: University of Ottawa, Ottawa, Canada, 2010
30. My first 100 terabytes of data: UMBC, Baltimore, MD 2010
31. Analysis of Populations of Images: Johns Hopkins University, Baltimore, MD 2010
32. Longitudinal Functional Principal Component Analysis: University of Wisconsin-Madison, Madison, WI, 2010
33. Longitudinal Functional Principal Component Analysis: Johns Hopkins University, Baltimore, MD 2101
34. Longitudinal Object Analysis: Yale University, New Haven, CT 2009
35. Analysis of Populations of Images: UMBC, Baltimore, MD 2009
36. Short Course on Semiparametric Regression: Oberwolfach, Germany, 2009
37. Analysis of Populations of Images: Cornell University, Ithaca, NY 2009
38. Longitudinal Object Analysis: Duke University, Durham, NC 2009
39. Longitudinal Object Analysis: University of Bristol, UK, 2009
40. Longitudinal Object Analysis: Penn State University, University Park, PA 2008
41. Longitudinal Object Analysis: Thomas Jefferson University, Philadelphia, PA 2008
42. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: JSM, invited JASA CS discussion paper, Denver, CO, 2008
43. Cox models with smooth functional effects of covariates measured with error: SRCOS SRC, Charleston, SC, 2008
44. Cox models with smooth functional effects of covariates measured with error: ICSA, Piscataway, NJ, 2008
45. Sleep Studies: Conference in honor of David Ruppert's 60th birthday, Keystone, CO, 2008
46. Multilevel Functional Principal Component Analysis: George Washington University, DC, 2007
47. Multilevel Functional Principal Component Analysis: CRM-ISM-GERAD Statistics Colloquium Series (jointly organized by the four Universities of Montreal), Montreal, Canada, 2007
48. Multilevel Functional Principal Component Analysis: Georgetown University, DC, 2007
49. Multilevel Functional Principal Component Analysis: Cornell University, Ithaca, NY, 2007
50. Multilevel Nonparametric Models: JSM, Salt Lake City, UT, 2007
51. Principal curves with application to SPECT colon imaging Keystone, CO, 2007
52. Likelihood Ratio Tests for Zero Variance in Linear Mixed Models: ENAR, Atlanta, GA, 2007
53. Short Course on Semiparametric Regression: University of Bucharest, Romania, 2006
54. Cox models with nonlinear effect of covariates measured with error: A case study of chronic

kidney disease incidence: National Cancer Institute, Bethesda, MD, 2006

55. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: University of Bucharest, Romania, 2006
56. Cox models with nonlinear effect of covariates measured with error: A case study of chronic kidney disease incidence: JSM, Seattle, WA, 2006
57. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: JSM, Seattle, WA, 2006
58. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: Ludwig-Maximilians-Universität, Munich, Germany, 2006
59. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: University of Bielefeld, Germany, 2006
60. Bivariate Binomial Spatial Modeling of Loa loa Prevalence in Tropical Africa: Columbia University, 2006
61. Adjustment Uncertainty in Effect Estimation: University of Pennsylvania, 2006
62. STEADy: Structured Estimation under Adjustment Uncertainty: University of Maryland, 2005
63. STEADy: A Case Study in Air Pollution and Mortality: WNAR, Fairbanks AK 2005
64. Short Course on Semiparametric Regression: JSM, Minneapolis, MN 2005
65. STEADy: A Case Study in Air Pollution and Mortality: JSM, Minneapolis, MN 2005
66. Spatially Adaptive Bayesian P-Splines with Heteroscedastic Errors: ENAR, Austin, TX 2005. IMS invited presentation
67. Spatially Adaptive Bayesian P-Splines with Heteroscedastic Errors: University of Pennsylvania, 2005
68. Spatially Adaptive Bayesian P-Splines with Heteroscedastic Errors: Lancaster University, UK, 2005
69. Bayesian Model Averaging: Johns Hopkins University, 2004
70. Some Research Problems with Applications: Johns Hopkins University, 2004
71. Likelihood Ratio Tests for Zero Random Effects Variance: Cornell University, 2002, 2004.
72. Likelihood Ratio Tests for Zero Random Effects Variance: Johns Hopkins University, 2003.
73. Likelihood Ratio Tests for Zero Random Effects Variance: Syracuse University, NY, 2004.
74. Likelihood Ratio Tests for Zero Random Effects Variance: University of Rochester, 2004.
75. Non-parametric Bayesian Analysis in WinBUGS, Racebrook Environmental Statistics Workshop, November 1-3, 2002
76. Data Dependent Bandwidth Choice: Source of Non-monotonic Power for Tests of Shift in Mean, Cornell University, 2002
77. Bayesian Hierarchical Modeling to Assess Pathogen Risk in Natural Water Supplies, Case Studies in Bayesian Statistics – Workshop 6, Carnegie Mellon University, 2001
78. Pathogen Risk Assessment in Water Supplies (An application of Bayesian hierarchical modeling), Environmental Statistics Conference, Cornell/Harvard, 2000
79. Pathogen Risk Assessment in Water Supplies (An application of Bayesian hierarchical modeling), ASA - Albany Chapter Conference, Rensselaer, NY 2002
80. Flood Risk Management on the Mississippi River, ASCE 8th Engineering Foundation Conference, Santa Barbara, CA, 2000

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: NIA
Period: 2014-2016
Effort: 1%

Title: Actiheart Project
Agency: 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: NINDS
Period: 2009-2011
Effort: 30%

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

Co-investigator

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

<u>Classroom instruction</u>

Johns Hopkins University

Year	Course	Enrollment
2013-	Methods in Biostatistics I	40-60 students
2013-	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

<u>Advisees</u>

PhD Students

Primary advisor:

Jordan Johns	Current graduate student
Andrew Leroux	Current graduate student
Marta Karas	Current graduate student
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: 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

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

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
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 committee for academic standards, 2012 - 2015
2. Search committee member for the Chair of the Mental Health Department, 2012
3. High Dimensional Data Campaign Planning Group, 2011
4. Better Environment for Research and Science (BERS) 2009-2011
5. Head of the Biostatistics Events Committee 2009-2012
6. Biostatistics Faculty Search Committee 2008-2011
7. Biostatistics second year exam committee 2004-2005
8. Curriculum committee 2004-2011

9. Faculty senate representative 2006-2008
10. Biostatistics seminar series coordinator 2004-2005
11. Cofounder of the Biosignals working group 2005
12. Organizer of interdepartmental Measurement error short course 2005
13. 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, 2015
2. JASA T&M 2015-2017 Editor search committee member
3. ASA Section on Statistics in Imaging, Chair-Elect, 2014
4. ASA Section on Nonparametric Statistics, Program Chair, 2013
5. ENAR Regional Committee (RECOM) member, 2011-2012
6. ENAR Regional Advisory Board (RAB) member, 2011-2013
7. Program Chair, ENAR Spring Meeting, Miami, FL, 2011
8. Member ENAR Regional Advisory Board (RAB), 2011-2013
9. Program Chair, Statistical Methods for Very Large Data Sets Conference, Baltimore, MD, 2011
10. Co-organizer of the short course on "Semiparametric Regression": Oberwolfach Seminars, Germany 2009
11. Organizer of the short course "Measurement Error in Nonlinear Models": University of Bristol, UK
12. Co-organizer of the short course on "Semiparametric Regression": JSM, Washington, DC, 2009
13. Co-organizer of the short course on "Measurement Error in Nonlinear Models": ENAR, Arlington, VA 2008
14. Co-organizer of the short course on "Semiparametric Regression": JSM, Minneapolis, MN 2005
15. Organizer of invited session "Statistical Methodology for the Analysis of Sleep Studies" - ISI 2009
16. Co-organizer of Biometrics invited session "Statistical Methodology for the Analysis of Sleep Studies" – JSM 2007
17. 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