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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; 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

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>

Peer reviewed articles

Statistical methodology:

1. Cui E, Leroux A, Smirnova E, **Crainiceanu CM**. *Fast Univariate Inference for Longitudinal Functional Models*, Journal of Computational and Graphical Statistics, 2021
2. Cui E, **Crainiceanu CM**, Leroux A. *Additive Functional Cox Model*, Journal of Computational and Graphical Statistics, 30(3):780-793, 2021
3. Karas M, Straczekiewicz M, Fadel W, Harezlak J, **Crainiceanu CM**, Urbanek JK. *Adaptive empirical pattern transformation (ADEPT) with application to walking stride segmentation*, Biostatistics, 22(2):331-347, 2021
4. 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
5. 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
6. **Crainiceanu CM**, Crainiceanu A. *The upstrap*, Biostatistics, 21(2):e164-e166, 2020
7. Gherman A, Muschelli J, Caffo B, Crainiceanu CM. *Rxnat: An Open-Source R Package for XNAT-Based Repositories*, Frontiers Neuroinformatics, 14:572068, 2020
8. Gaynanova I, Punjabi N, **Crainiceanu CM**. *Modeling continuous glucose monitoring (CGM) data during sleep*, Biostatistics, May 22:kxaa023, 2020
9. 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

10. 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
11. 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
12. Muschelli J, Sweeney E, **Crainiceanu CM**. *freesurfer: Connecting the Freesurfer software with R*, F1000 Research, 7:599, 2018
13. Smirnova E, Ivanescu A, Bai J, Crainiceanu CM. *A practical guide to big data*, Statistics and Probability Letters, 136:25-29, 2018
14. Xiao L, Li C, Checkley W, **Crainiceanu CM**. *Fast covariance estimation for sparse functional data*. Statistics and Computing, 28(3):511-522, 2018
15. 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
16. Leroux A, Xiao L, **Crainiceanu CM**, Checkley, W. *Dynamic prediction in functional concurrent regression with an application to child growth*, Statistics in Medicine, 2017
17. 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
18. Bai J, Sun Y, Schrack JA, **Crainiceanu CM**. *A two-stage model for wearable device data*, Biometrics, 2017
19. Park SY, Staicu A-M, **Crainiceanu CM**. *Simple fixed-effects inference for complex functional models*, Biostatistics, 2017
20. 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
21. Chen OY, **Crainiceanu CM**, Ogburn EL, Caffo BS, Wager TD, Lindquist MA. *High-dimensional multivariate mediation with application to neuroimaging data*, Biostatistics, 2017
22. 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
23. 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
24. Xiao L, Zipunnikov V, Ruppert D, **Crainiceanu CM**. *Fast Covariance Estimation for High-dimensional Functional Data*, Statistics and Computing, 26(1), 409-421, 2016
25. 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
26. 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
27. 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
28. Gellar JE, Colantuoni E, Needham DM, **Crainiceanu CM**. *Cox regression models with functional covariates for survival data*, Statistical Modelling, 15(3), 256-278, 2015
29. 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
30. 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
31. Shou H, Zipunnikov V, **Crainiceanu CM**, Greven S. *Structured functional principal component analysis*, Biometrics, 71(1), 247-257, 2015
32. Gellar JE, Needham DM, **Crainiceanu CM**. *Cox Regression Models with Functional Covariates for Survival Data*, Statistical Modelling, 15(3), 256-278, 2015
33. 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
34. 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.
35. Swihart BJ, Goldsmith J, **Crainiceanu CM**. *Restricted likelihood ratio tests for functional effects in the functional linear model*, Technometrics, 56(4), 483-493, 2014
36. 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
37. 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
38. Di C, **Crainiceanu CM**, Jank WS. *Multilevel sparse functional principal component analysis*, Stat, 3, 2014
39. 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
40. Swihart BJ, Caffo BS, **Crainiceanu CM.** *A unifying framework for marginalized random intercept models of correlated binary outcomes*, International Statistical Review, 82, 2014
41. 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
42. Greven S, **Crainiceanu CM.** *On likelihood ratio testing for penalized splines*, Advances in Statistical Analysis, 97, 387-402, 2013
43. 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
44. 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
45. Eloyan A, Caffo BS, **Crainiceanu CM.** *Likelihood Based Population Independent Component Analysis*, Biostatistics, 14(3), 2013
46. 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
47. Gertheiss J, Goldsmith J, **Crainiceanu CM**, Greven S. *Longitudinal Scalar-on-Functions Regression with Application to Tractography Data*, Biostatistics, 14(3), 2013
48. 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
49. Goldsmith JA, Greven S, **Crainiceanu CM.** *Corrected confidence bands for functional data using principal components*, Biometrics, 69(1), 41-51, 2013
50. Woodard DB, **Crainiceanu CM**, Ruppert D. *Hierarchical Adaptive Regression Kernels for Regression with Functional Predictors*, Journal of Computational and Graphical Statistics, 22, 2013
51. Bai J, Goldsmith AJ, Caffo BS, Glass TA, **Crainiceanu CM.** *Movelets: A dictionary of movement*, Electronic Journal of Statistics, 6, 559-578, 2012
52. **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
53. 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
54. Goldsmith AJ, **Crainiceanu CM**, Caffo BS, Reich D. *Longitudinal Penalized Functional Regression*, Journal of the Royal Statistical Society, Series C, 61(3), 2012
55. **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
56. Staicu A-M, **Crainiceanu CM**, Reich DS, Ruppert D. *Modeling functional data with spatially heterogeneous shape characteristics*, Biometrics, 68(2), 331-343, 2012
57. 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
58. Goldsmith AJ, Wand MP, **Crainiceanu CM.** *Functional regression via variational Bayes*, Electronic Journal of Statistics, 5, 572-602, 2011
59. **Crainiceanu CM**, Caffo BS, Morris J. *Multilevel functional data analysis*, The SAGE Handbook of Multilevel Modeling, 2011
60. **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.
61. **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.
62. 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
 63. Greven S, **Crainiceanu CM**, Caffo BS, Reich D. *Longitudinal functional principal component analysis*, Electronic Journal of Statistics, 4, 1022-1054, 2010
 64. Goldsmith AJ, Bobb J, **Crainiceanu CM**, Caffo BS, Reich D. *Penalized functional regression*, Journal of Computational and Graphical Statistics, 20(4), 830-851, 2011
 65. **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
 66. 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
 67. Staicu A-M, **Crainiceanu CM**, Carroll RJ. *Fast Methods for Spatially Correlated Multilevel Functional Data*, Biostatistics, 11(2), 177-194, 2010
 68. 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
 69. **Crainiceanu CM**, Staicu A-M, Di C-Z. *Generalized Multilevel Functional Regression*, Journal of the American Statistical Association, 104(488), 1550-1561, 2009
 70. **Crainiceanu CM**, Goldsmith AJ. *Bayesian Functional Data Analysis using WinBUGS*, Journal of Statistical Software, 32(11), 2009
 71. 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
 72. Di C, **Crainiceanu CM**, Caffo BS, Punjabi NM. *Multilevel Functional Principal Component Analysis*, The Annals of Applied Statistics, 3(1), 458-488, 2009
 73. **Crainiceanu CM**. *Comments on "Bayesian Generalized Method of Moments"*, by G. Yin, Bayesian Analysis, 4(2), 213-216, 2009
 74. **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
 75. Luo S, **Crainiceanu CM**, Louis TA, Chatterjee N. *Bayesian Inference for Smoking Cessation with a Latent Cure State*, Biometrics, 65, 970-978, 2009
 76. 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
 77. 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
 78. **Crainiceanu CM**, Dominici, F, Parmigiani, G. *Adjustment Uncertainty in Effect Estimation*, Biometrika, 95, 635-651, 2008
 79. **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
 80. 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
 81. **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
 82. **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
 83. 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
 84. Krivobokova T, **Crainiceanu CM**, Kauermann, G. *Fast Adaptive Penalised Splines*, Journal of Computational and Graphical Statistics, 17(1), 1-20, 2008
 85. **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
 87. **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

88. Gimenez O, **Crainiceanu CM**, Barbraud C, Jenouvrier S, Morgan BJT. *Semiparametric Regression in Capture-Recapture Modelling*, Biometrics, 62(3), 691-698, 2006
89. **Crainiceanu CM**, Ruppert D, Wand MP. *Bayesian Analysis for Penalized Spline Regression Using WinBUGS*, Journal of Statistical Software, 14(14), 2005
90. **Crainiceanu CM**, Ruppert D, Claeskens G, Wand MP. *Exact likelihood ratio tests for penalized splines*. Biometrika, 92(1), 91-103, 2005.
91. 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.
92. **Crainiceanu CM**, Ruppert D. *Restricted Likelihood Ratio Tests in Nonparametric Longitudinal Models*. Statistica Sinica, 14(3), 713-729, 2004.
93. **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.
94. **Crainiceanu CM**, Ruppert D. *Likelihood Ratio Tests for Goodness-of-Fit of a Nonlinear Regression Model*. Journal of Multivariate Analysis, 91, 35-52, 2004.
95. **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:

96. Qi G, Dutta D, Leroux A, Ray D, **Crainiceanu CM**, Chatterjee N. *Genome-wide association studies of 27 accelerometry-derived physical activity measurements identifies novel loci and genetic mechanisms*, Genetic Epidemiology, 2022
97. Yu X, Hao L, **Crainiceanu CM**, Leroux A. *Occupational determinants of physical activity at work: Evidence from wearable accelerometer in 2005–2006 NHANES*, SSM - Population Health, 17, 2022
98. Leroux A, Frey KP, **Crainiceanu CM**, Obremskey WT, Stinner DJ, Bosse MJ, Karunakar MA, O'Toole RV, Carroll EA, Hak DJ, Hayda R, Alkhoury D, Schmidt AH; METRC. *Defining Incidence of Acute Compartment Syndrome in the Research Setting: A Proposed Method from the PACS Study*, Journal of Orthopedic Trauma, 36(Suppl 1):S26-S32, 2022.
99. Leroux A, Rzasal-Lynn R, **Crainiceanu CM**, Sharma T. *Wearable Devices: Current Status and Opportunities in Pain Assessment and Management*, Digital Biomarkers, 5(1):89-102, 2021.
100. Malone SK, Patterson F, Grunin L, Melkus GD, Riegel B, Punjabi N, Yu G, Urbanek J, **Crainiceanu CM**, Pack A. *Habitual physical activity patterns in a nationally representative sample of U.S. adults*, Translational Behavioral Medicine, 11(2):332-341, 2021
101. Kaufman MR, Dey D, **Crainiceanu CM**, Dredze M. *#MeToo and Google Inquiries Into Sexual Violence: A Hashtag Campaign Can Sustain Information Seeking*, Journal of Interpersonal Violence, 36(19-20):9857-9867, 2021
102. Eshaghzadeh TM, Minhas DS, Ahmad G, O'Connor EE, Muschelli J, Laymon CM, Yang Z, Cohen AD, Aizenstein HJ, Klunk WE, Christian BT, Hwang SJ, **Crainiceanu CM**, Tudorascu DL. *A multi-scanner neuroimaging data harmonization using RAVEL and ComBat*, Neuroimage, 245:118703, 2021.
103. Solhjoo S, Punjabi NM, Ivanescu AE, **Crainiceanu CM**, Gaynanova I, Wicken C, Buckenmaier C 3rd, Haigney MC. *Methadone Destabilizes Cardiac Repolarization During Sleep*, Clinical Pharmacology Therapeutics, 10(4):1066-1074, 2021
104. Durfee AZ, Sheppard SM, Meier EL, Bunker L, Cui E, **Crainiceanu CM**, Hillis AE. *Explicit Training to Improve Affective Prosody Recognition in Adults with Acute Right Hemisphere Stroke*, Brain Science, 11(5):667, 2021
105. Lambe J, Fitzgerald KC, Murphy OC, Filippatou AG, Sotirchos ES, Kalaitzidis G, Vasileiou E, Pellegrini N, Ogbuokiri E, Toliver B, Luciano NJ, Davis S, Fioravante N, Kwakyi O, Risher H, **Crainiceanu CM**, Prince JL, Newsome SD, Mowry EM, Saidha S, Calabresi PA. *Association of Spectral-Domain OCT With Long-term Disability Worsening in Multiple Sclerosis*, Neurology, 96(16):e2058-e2069, 2021
106. Heravi AS, Etzkorn LH, Urbanek JK, **Crainiceanu CM**, Punjabi NM, Ashikaga H, Brown TT, Budoff MJ, D'Souza G, Magnani JW, Palella FJ Jr, Berger RD, Wu KC, Post WS. *HIV Infection Is Associated with Variability in Ventricular Repolarization: The Multicenter AIDS Cohort Study (MACS)*, Circulation, 141(3):176-187, 2020

107. Tabacu L, Ledbetter M, Leroux A, **Crainiceanu CM**, Smirnova E. *Quantifying the Varying Predictive Value of Physical Activity Measures Obtained from Wearable Accelerometers on All-Cause Mortality over Short to Medium Time Horizons in NHANES 2003-2006*, Sensors, 21(1):4, 2020
108. Benjamin-Neelon SE, Bai J, Østbye T, Neelon B, Pate RR, **Crainiceanu CM**. *Physical Activity and Adiposity in a Racially Diverse Cohort of US Infants*, Obesity, 28(3):631-637, 2020
109. Ding T, Cohen AD, O'Connor EE, Karim HT, Crainiceanu A, Muschelli J, Lopez O, Klunk WE, Aizenstein HJ, Krafty R, Crainiceanu CM, Tudorascu DL. *An improved algorithm of white matter hyperintensity detection in elderly adults*, Neuroimage Clinical, 25:102151, 2020
110. Hannawi Y, Muschelli J, Mulder M, Sharrock M, Storm C, Leithner C, **Crainiceanu CM**, Stevens RD. *Postcardiac arrest neurological prognostication with quantitative regional cerebral densitometry*, Resuscitation, 154:101-109, 2020
111. Punjabi NM, Patil S, **Crainiceanu CM**, Aurora RN. *Variability and Misclassification of Sleep Apnea Severity Based on Multi-Night Testing*, Chest, 158(1):365-373, 2020
112. Carass A, Roy S, Gherman A, Reinhold JC, Jesson A, Arbel T, Maier O, Handels H, Ghafoorian M, Platel B, Birenbaum A, Greenspan H, Pham DL, **Crainiceanu CM**, Calabresi PA, Prince JL, Roncal WRG, Shinohara RT, Oguz I. *Evaluating White Matter Lesion Segmentations with Refined Sorensen-Dice Analysis*, Science Reports, 10(1):8242, 2020
113. Sotirchos ES, Gonzalez-Caldito N, Dewey BE, Fitzgerald KC, Glaister J, Filippatou A, Ogbuokiri E, Feldman S, Kwakyi O, Risher H, **Crainiceanu CM**, Pham DL, Van Zijl PC, Mowry EM, Reich DS, Prince JL, Calabresi PA, Saidha S. *Effect of disease-modifying therapies on subcortical gray matter atrophy in multiple sclerosis*, Multiple Sclerosis, 26(3):312-321, 2020
114. Filippatou AG, Lambe J, Sotirchos ES, Fitzgerald KC, Aston A, Murphy OC, Pellegrini N, Fioravante N, Risher H, Ogbuokiri E, Kwakyi O, Toliver B, Davis S, Luciano N, **Crainiceanu CM**, Prince JL, Mowry EM, Calabresi PA, Saidha S. *Association of body mass index with longitudinal rates of retinal atrophy in multiple sclerosis*, Multiple Sclerosis, 26(7):843-854, 2020
115. Sotirchos ES, Gonzalez Caldito NG, Filippatou A, Fitzgerald KC, Murphy OC, Lambe J, Nguyen J, Button J, Ogbuokiri E, **Crainiceanu CM**, Prince JL, Calabresi PA, Saidha S; International Multiple Sclerosis Visual System (IMSVISUAL) Consortium. *Progressive Multiple Sclerosis Is Associated with Faster and Specific Retinal Layer Atrophy*, Annals of Neurology, 87(6):885-896, 2020
116. Rothman A, Murphy OC, Fitzgerald KC, Button J, Gordon-Lipkin E, Ratchford JN, Newsome SD, Mowry EM, Sotirchos ES, Syc-Mazurek SB, Nguyen J, Caldito NG, Balcer LJ, Frohman EM, Frohman TC, Reich DS, **Crainiceanu CM**, Saidha S, Calabresi PA. *Retinal measurements predict 10-year disability in multiple sclerosis*, Annals of Clinical Translational Neurology, 6(2):222-232, 2019
117. Nguyen J, Rothman A, Gonzalez N, Avornu A, Ogbuokiri E, Balcer LJ, Galetta SL, Frohman EM, Frohman T, **Crainiceanu CM**, Calabresi PA, Saidha S. *Macular Ganglion Cell and Inner Plexiform Layer Thickness Is More Strongly Associated with Visual Function in Multiple Sclerosis Than Bruch Membrane Opening-Minimum Rim Width or Peripapillary Retinal Nerve Fiber Layer Thicknesses*, Journal of Neuroophthalmology, 39(4):444-450, 2019
118. Oh J, Ontaneda D, Azevedo C, Klawiter EC, Absinta M, Arnold DL, Bakshi R, Calabresi PA, **Crainiceanu CM**, Dewey B, Freeman L, Gauthier S, Henry R, Inglese M, Kolind S, Li DKB, Mainero C, Menon RS, Nair G, Narayanan S, Nelson F, Pelletier D, Rauscher A, Rooney W, Sati P, Schwartz D, Shinohara RT, Tagge I, Traboulsee A, Wang Y, Yoo Y, Yousry T, Zhang Y, Sicotte NL, Reich DS; North American Imaging in Multiple Sclerosis Cooperative. *Imaging outcome measures of neuroprotection and repair in MS: A consensus statement from NAIMS*, Neurology, 92(11):519-533, 2019
119. Kudchadkar SR, Aljohani O, Johns J, Leroux A, Alsafi E, Jastaniah E, Gottschalk A, Shata NJ, Al-Harbi A, Gergen D, Nadkarni A, **Crainiceanu CM**. *Day-Night Activity in Hospitalized Children after Major Surgery: An Analysis of 2271 Hospital Days*, Journal of Pediatrics, 209:190-197, 2019
120. Sotirchos ES, Fitzgerald KC, **Crainiceanu CM**. *Reporting of R2 Statistics for Mixed-Effects Regression Models*, JAMA Neurology, 76(4):507, 2019
121. Merikangas KR, Swendsen J, Hickie IB, Cui L, Shou H, Merikangas AK, Zhang J, Lamers F, **Crainiceanu CM**, Volkow ND, Zipunnikov, V. *Real-time Mobile Monitoring of the Dynamic Associations Among Motor Activity, Energy, Mood, and Sleep in Adults with Bipolar Disorder*, JAMA Psychiatry, 76(2):190-198, 2019
122. Caldito NG, Saidha S, Sotirchos ES, Dewey BE, Cowley NJ, Glaister J, Fitzgerald KC, Al-Louzi O, Nguyen J, Rothman A, Ogbuokiri E, Fioravante N, Feldman S, Kwakyi O, Risher H, Kimbrough D, Frohman TC, Frohman E, Balcer L, Crainiceanu C, Van Zijl PCM, Mowry EM, Reich DS, Oh J, Pham

- DL, Prince J, Calabresi PA. *Brain and retinal atrophy in African-Americans versus Caucasian-Americans with multiple sclerosis: a longitudinal study*, Brain, 141(11):3115-3129, 2018
123. Grau-Perez M, Navas-Acien A, Galan-Chilet I, Briongos-Figuero LS, Morchon-Simon D, Bermudez JD, **Crainiceanu CM**, de Marco G, Rentero-Garrido P, Garcia-Barrera T, Gomez-Ariza JL, Casasnovas JA, Martin-Escudero JC, Redon J, Chaves FJ, Tellez-Plaza M. *Arsenic exposure, diabetes-related genes and diabetes prevalence in a general population from Spain*, Environmental Pollution, 235:948-955, 2018
124. Nguyen J, Rothman A, Fitzgerald K, Whetstone A, Syc-Mazurek S, Aquino J, Balcer LJ, Frohman EM, Frohman TC, **Crainiceanu CM**, Beier M, Newsome SD, Calabresi PA, Saidha S. *Visual Pathway Measures are Associated with Neuropsychological Function in Multiple Sclerosis*, Current Eye Research, 43:7, 941-948, 2018
125. Schrack JA, Leroux A, Fleg JL, Zipunnikov V, Simonsick EM, Studenski SA, **Crainiceanu CM**, Ferrucci L. *Using Heart Rate and Accelerometry to Define Quantity and Intensity of Physical Activity in Older Adults*, The Journals of Gerontology: Series A, 73(5):668-675 2018
126. Grigsby MR, Di J, Leroux A, Zipunnikov V, Xiao L, **Crainiceanu CM**, Checkley W. *Novel metrics for growth model selection*. Emerging Themes in Epidemiology, 15(4), 2018
127. Urbanek JK, Zipunnikov V, Harris T, Fadel W, Glynn N, Koster A, Caserotti P, **Crainiceanu CM**, Harezlak J. *Prediction of sustained harmonic walking in the free-living environment using raw accelerometry data*. Physiological Measurement, 39(2), 2018
128. 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, 35:3, 416-434, 2018
129. 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
130. 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
131. 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
132. 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
133. 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
134. 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
135. 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
136. 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
137. 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
138. Muschelli J, Sweeney EM, Ullman NL, Vespa P, Hanley DF, Crainiceanu CM. *PItHPERF_eCT: Primary Intracranial Hemorrhage Probability Estimation using Random Forests on CT*, Neuroimage Clinical, 14, 379-390, 2017
139. Carass A, Roy S, Jog A, Cuzzucreo 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, Ithme 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
140. 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
141. 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
142. 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
143. 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
144. 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
145. 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
146. 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
147. 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
148. 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
149. 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
150. 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
151. 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
152. 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
153. 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
154. 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
155. 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*, Preventive Medicine Reports, 2, 152-157, 2015
156. Swihart BJ, Punjabi NM, **Crainiceanu CM**. *Modeling sleep fragmentation in sleep hypnograms: An instance of fast, scalable discrete-state, discrete-time analyses*, Computational Statistics and Data Analysis, 89, 1-11, 2015
157. 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*, Journal of Epidemiology and Community Health, 69 (Suppl 1), A12-A12, 2015
158. Muschelli J, Ullman NL, Mould WA, Vespa P, Hanley DF, **Crainiceanu CM**. *Validated automatic brain extraction of head CT images*, NeuroImage, 114, 379-385, 2015
159. Muschelli J, Sweeney E, Lindquist M, **Crainiceanu C**. *fslr: Connecting the FSL Software with R*, R Journal, 7(1), 163-175, 2015
160. Schrack, J Zipunnikov V, **Crainiceanu C**. *Electronic Devices and Applications to Track Physical Activity*, JAMA, 313(20), 2079-2080, 2015
161. 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*, Journal of Gerontology Series A, 69, 2014

162. Sweeney EM, Vogelstein JT, Cuzzocreo JL, Calabresi PA, Reich DS, **Crainiceanu CM**, Shinohara RT. *A comparison of supervised machine learning algorithms and feature vectors for MS lesion segmentation using multimodal structural MRI*, PLoS One, 2014, 9(4):e95753.
163. Schrack JA, Zipunnikov V, Goldsmith J, Bandeen-Roche K, **Crainiceanu CM**, Ferrucci L. *Estimating energy expenditure from heart rate in older adults: a case for calibration*, PLoS One, 2014, 9(4):e93520
164. Eloyan A, Shou H, Shinohara RT, Sweeney EM, Nebel MB, Cuzzocreo JL, Calabresi PA, Reich DS, Lindquist MA, **Crainiceanu CM**. *Health effects of lesion localization in multiple sclerosis: spatial registration and confounding adjustment*, PLoS One, 2014, 9(9):e107263
165. He B, Bai J, Zipunnikov VV, Koster A, Caserotti P, Lange-Maia B, Glynn NW, Harris TB, **Crainiceanu CM**. *Predicting human movement with multiple accelerometers using movelets*, Medical Science & Sports Exercise, 46(9), 1859-1866, 2014
166. 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*, Clinical Journal of the American Society of Nephrology, 9(4), 745-755, 2014
167. 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*, NeuroImage Clinical, 3, 171-179, 2013
168. Lindquist MA, Caffo BS, **Crainiceanu CM**. *Ironing out the statistical wrinkles in "ten ironic rules"*, Neuroimage, 81, 499-502, 2013
169. 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*. NeuroImage Clinical, 2, 402-413, 2013
170. Saidha S, Sotirchos ES, Oh J, Syc SB, Seigo MA, Shiee N, Eckstein C, Durbin MK, Oakley JD, Meyer SA, Frohman TC, Newsome S, Ratchford JN, Balcer LJ, Pham DL, **Crainiceanu CM**, Frohman EM, Reich DS, Calabresi PA. *Relationships Between Retinal Axonal and Neuronal Measures and Global Central Nervous System Pathology in Multiple Sclerosis*. Archives of neurology, 70(1), 34-43, 2013
171. Sweeney E, Shinohara RT, Shea C, Reich D, **Crainiceanu CM**. *Automatic lesion incidence estimation and detection in multiple sclerosis using multisequence longitudinal MRIs*. American Journal of Neuroradiology, 34(1), 68-73, 2013
172. Lauzon CB, **Crainiceanu CM**, Caffo BS, Landman BA. *Assessment of bias in experimentally measured diffusion tensor imaging parameters using SIMEX*. Magnetic Resonance Medicine, 69(3), 891-902, 2013
173. 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*. Lancet Neurology, 11(11), 2012
174. Gribble MO, Howard BV, Umans JG, Shara NM, Francesconi KA, Goessler W, **Crainiceanu CM**, Silbergeld EK, Guallar E, Navas-Acien A. *Arsenic Exposure, Diabetes Prevalence, and Diabetes Control in the Strong Heart Study*. American Journal of Epidemiology, 176(10), 865-874, 2012
175. De Beuf K, Pipelers P, Andriankaja M, Thas O, Inzé D, **Crainiceanu CM**, Clement L. *Analysis of tiling array expression studies with flexible designs in Bioconductor (waveTiling)*. BMC Bioinformatics, 13, 234, 2012
176. 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
177. Paynter NP, **Crainiceanu CM**, Sharett R, Coresh J. *Effect of Correcting for Long Term Variation in Major Coronary Heart Disease Risk Factors: Relative Hazard Estimation and Risk Prediction in the ARIC Study*. Annals of Epidemiology, 22(3): 191-197, 2012
178. 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
179. 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
180. 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
181. 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
182. 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
183. 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
184. 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
185. 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
186. 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
187. 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
188. 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
189. 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
190. 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
191. 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
192. Dominici, F, Wang C, **Crainiceanu CM**, Parmigiani G. *Model selection and health effect estimation in Environmental Epidemiology,* Epidemiology, 19(4), 558-560, 2008
193. 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
194. Korzeniewska A, **Crainiceanu CM**, Franaszczuk P, Kus R, Crone N. *Dynamics of event-related causality (ERC) in brain electrical activity,* Human Brain Mapping, 2007
195. 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
196. 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
197. 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
198. 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, 60(4), 281- 295, 2003
199. **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

200. Krivobokova, T, **Crainiceanu CM**, Kauermann, G. *Computationally Efficient Spatially Adaptive Penalized Splines.* Proceedings of the 21st Workshop on Statistical Modeling, Galway, Ireland, 2006.
201. **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:

202. **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
203. **Crainiceanu CM.** *On the likelihood function for a multivariate MA(q) process*, Annals of the University of Bucharest, 47, 125-130, 1999
204. **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. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, City University of Hong Kong, China, 2021 (virtual)
2. Biostatistical methods for wearable devices with applications to NHANES and UK Biobank, University of North Carolina, Chapel Hill, NC, 2021 (virtual)
3. Longitudinal Image Analysis and Inference, Statistical Methods in Imaging, Atlanta, GA, 2021 (virtual)
4. Objective physical activity monitoring using wearable devices, University of Melbourne, Melbourne, Australia, 2020 (virtual)
5. Wearable and Implantable Technology (WIT) with Biopharmaceutical Applications, St. Jude Children's Research Hospital, Arlington, VA, 2020 (virtual)
6. Wearable and Implantable Technology (WIT) with Biopharmaceutical Applications, Weill Cornell Medicine, New York, NY, 2020 (virtual)
7. Data visualization for wearable and implantable sensors in health research, Johns Hopkins University, Baltimore, MD, 2020
8. Wearable and Implantable Technology (WIT), Banff, Canada, 2020
9. Statistical Methods for Wearable and Implantable Technologies (WIT), University of Kansas Medical Center, Kansas City, KS, 2019
10. Biostatistical Methods for Wearable and Implantable Technology (WIT), Virginia Commonwealth University, Richmond, VA, 2019
11. Biostatistical Methods for Wearable and Implantable Technology, Rice University, Houston, TX, 2018
12. Biostatistical Methods for Wearable and Implantable Technology, Georgetown University, Washington, DC, 2018
13. Biostatistical Methods for Wearable and Implantable Technology, University of Maryland, College Station, MD, 2018
14. Biostatistical Methods for Wearable and Implantable Technology, University of Pittsburgh, Pittsburgh, PA, 2018
15. Biostatistical Methods for Wearable and Implantable Technology, University of Utah, Salt Lake, UT, 2018
16. Biostatistical Methods for Wearable and Implantable Technology, Old Dominion University, Norfolk, VA, 2018
17. Emerging Biostatistical Problems in Wearable and Implantable Technology, ENAR, Atlanta, 2018
18. Biostatistical Methods for Wearable and Implantable Technology, Harvard, Boston, MA, 2018
19. Recent Developments in Statistical Methods for Analyzing Big and Complex Neuroimaging Data, JSM, Baltimore, MD, 2017
20. Neuroconductor: Building the R imaging Community, ENAR, Washington, DC, 2017
21. Relating Multi-Sequence Longitudinal Intensity Profiles and Clinical Covariates in Incident Multiple

- Sclerosis Lesions, ENAR, Washington, DC, 2017
22. Statistical Segmentation of Multiple Sclerosis Lesions on Structural Magnetic Resonance Imaging, JSM, Chicago, IL, 2016
 23. Functional Regression Methods for Densely-Sampled Biomarkers in the ICU, ENAR, Austin, TX, 2016
 24. Stroke Localization and Association with Health Outcomes Using Clinical CT Images, JSM, Seattle, WA, 2015
 25. Not Everybody, but Some People Move Like You, ENAR, Miami, FL, 2015
 26. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, George Washington University, DC, 2014
 27. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, Duke, NC, 2014
 28. Not everybody, but some people move like you: A Biostatistics perspective on wearable computing in public health, University of Washington, WA, 2014
 29. Variable-Domain Functional Data Analysis, ENAR, MD, 2014
 30. Coming to our sensors: Why body language is harder to decode than natural language. University of Pennsylvania, Philadelphia, PA, 2013
 31. Coming to our sensors: Why body language is harder to decode than natural language. Brigham Young University, Provo, UT, 2012
 32. Longitudinal analysis of high resolution structural brain images, Brown University, Providence, RI, 2012
 33. Longitudinal analysis of high resolution structural brain images, Florida State University, Tallahassee, FL, 2012
 34. Longitudinal analysis of high resolution structural brain images, Statistische Woche, Vienna, Austria, 2012
 35. Calibration of Ultra High-Dimensional Data with Application to DTI Tractography. JSM, San Diego, CA, 2012
 36. Movelets: A dictionary of Movement, Rice University, Houston, TX, 2012
 37. SubLIME: Automatic lesion incidence estimation and detection using multi-modality longitudinal MRIs, Indiana University, Indianapolis, IN, 2012
 38. Movelets: A dictionary of Movement, ENAR, Washington, DC, 2012
 39. Movelets: A dictionary of Movement, Emory University, GA, 2011
 40. Movelets: A dictionary of Movement, Johns Hopkins University, MD, 2011
 41. My first 100 terabytes of data: Statistical principles and methods, ENAR, Miami, FL, 2011
 42. Population-wide model-free quantification of brain blood barrier dynamics in Multiple Sclerosis: Cornell University, NY, 2011
 43. Population-wide model-free quantification of brain blood barrier dynamics in Multiple Sclerosis: University of North Carolina at Chapel Hill, NC, 2011
 44. Longitudinal Functional Principal Component Analysis: University of Michigan, MI, 2011
 45. Longitudinal Functional Principal Component Analysis: North Carolina State University, NC, 2010
 46. My first 100 terabytes of data: SAMSI workshop, Durham, NC, 2010
 47. High dimensional multilevel functional principal component analysis: JSM conference, Vancouver, Canada, 2010
 48. Longitudinal Functional Principal Component Analysis: SRCOS conference, Virginia Beach, VA, 2010
 49. The rise of data and Biostatistics in the 21st century: University of Ottawa, Ottawa, Canada, 2010
 50. My first 100 terabytes of data: UMBC, Baltimore, MD 2010
 51. Analysis of Populations of Images: Johns Hopkins University, Baltimore, MD 2010
 52. Longitudinal Functional Principal Component Analysis: University of Wisconsin-Madison, Madison, WI, 2010
 53. Longitudinal Functional Principal Component Analysis: Johns Hopkins University, Baltimore, MD 2010
 54. Longitudinal Object Analysis: Yale University, New Haven, CT 2009
 55. Analysis of Populations of Images: UMBC, Baltimore, MD 2009
 56. Short Course on Semiparametric Regression: Oberwolfach, Germany, 2009
 57. Analysis of Populations of Images: Cornell University, Ithaca, NY 2009
 58. Longitudinal Object Analysis: Duke University, Durham, NC 2009
 59. Longitudinal Object Analysis: University of Bristol, UK, 2009
 60. Longitudinal Object Analysis: Penn State University, University Park, PA 2008

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

RESEARCH GRANTS PARTICIPATION

Principal investigator

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

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

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

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

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

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

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

Co-investigator

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

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

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

Effort: 5%

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

Agency: NIA/NINDS

Period: 2019 – 2024

Effort: 10%

Title: Data Center for Acute to Chronic Pain Biosignatures

Agency: NIH/NIDA

Period: 2019 – 2023

Effort: 20%

Title: Implications of Obstructive Sleep Apnea for Fat Metabolism

Agency: NIH/NHLBI

Period: 2019 – 2023

Effort: 10%

Title: Advanced Statistical Analytics of MRI in MS

Agency: NIH/NINDS

Period: 2020-2025

Effort: 10%

Title: Statistical Models of Alzheimer's Disease Pathological Cascade

Agency: NIH/NIA

Period: 2020 – 2024

Effort: 5%

Title: Deep Learning Methods for Harmonization of Heterogeneous Multiple Sclerosis

Agency: Congressionally Directed Medical Research Programs

Period: 2020 – 2023

Effort: 2%

Title: Statistical Methods for Analyzing Objectively Measured Physical Activity Data

Agency: NIH/NHLBI

Period: 2016 – 2021

Effort: 10%

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

Agency: NIH/NIA

Period: 2015 – 2020

Effort: 5%

Title: Strengthening Informal Support Resources with Strategic Methodological Advances

Agency: NIH/NIA

Period: 2014 – 2019

Effort: 4%

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

Agency: NIH/NIBIB

Period: 2014 – 2017

Effort: 4.5%

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

Agency: NIH - UPENN

Period: 2013 – 2018

Effort: 8%

Title: Statistical Methods for Mapping Human Brain Development
Agency: NIH - NYU
Period: 2012 – 2017
Effort: 4%

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

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

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

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

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

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

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

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

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

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

Title: Preprocessing and Analysis Tools for Contemporary Microarray Applications
Agency: NIH

Period: 2007-2012
Effort: 10%

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

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

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

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

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

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

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

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

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

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

TEACHING

Classroom instruction

Johns Hopkins University

<u>Year</u>	<u>Course</u>	<u>Enrollment</u>
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	10-20 students
2005-06	Guest lecturer - Two weeks of lectures on linear mixed models Advanced Methods in Biostatistics III (140.753) PhD and ScM core requirement	10-20 students

Cornell University

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

Other

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

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

Advisees

PhD Students

Primary advisor:

Lacey Etzkorn	Current graduate student
Erjia Cui	Current graduate student
Lily Koffman	Current graduate student
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: 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

Qier Meng Current MS student Biostatistics
Xiaoxi Hu Graduated, MS Biostatistics.
Jennifer Xu Graduated, MS Biostatistics. First employment: PhD student, Johns Hopkins University
Yeya Zheng Graduated, MS Biostatistics. First employment: Analysis Group
Chih-Kai Chang Graduated, MS Biostatistics. First employment: Blizzard
Ji-Soo Kim Graduated. MS Biostatistics. First employment: PhD student, Johns Hopkins University
Gina Norato Graduated. MS Biostatistics. First employment: National Institute for Neurological Diseases and Stroke, NIH
Andrew Leroux Graduated. MS Biostatistics. First employment: Food and Drug Administration
Bing He Graduated. MS Biostatistics. First employment: PhD student, Johns Hopkins University
Sahil Seth Graduated. MS Biostatistics. First employment: Dana Faber Cancer Center, Harvard University
Yaping Wang Graduated. MS Biostatistics. First employment: Department of Epidemiology, Johns Hopkins University
Jiawei Bai Graduated. MS Biostatistics. First employment: PhD student, Johns Hopkins University
Elizabeth Sweeney Graduated. MS Biostatistics. First employment: Department of Biostatistics. Johns Hopkins University
Samuel Ogunbo Graduated. 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 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