Giles Hooker

Associate Professor & Director of Undergraduate Studies

Department of Biological Statistics and Computational Biology
Department of Statistical Science
Cornell University

http://www.bscb.cornell.edu/~hooker
http://blogs.cornell.edu/modelmeanings/

Contact

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Cornell University	*Fax:*	(1 607) 255 4698
Ithaca, NY, 14853		

Education

PhD Statistics, Stanford University 2004.

MSc Statistics, Stanford University, 2002.

BSc Mathematics Honours 1, Australian National University, 1999.

BA Political Science, Australian National University, 1998.

Honours and Awards

2011 NSF CAREER Award

2004 TA of the Year, Department of Statistics, Stanford University.

2004 Laha Travel Award, Institute of Mathematical Statistics

2003 TA Award - Department of Statistics, Stanford University.

2000 Fulbright Tim Matthews Memorial Award

2000 Shandong Province Award for Excellence in Teaching

1999 University Medal in Mathematics, Australian National University

1999 Hana Neumann Prize, Australian National University

1999 Australian National University Honours Scholarship

1997 University of New South Wales Summer Research Scholarship

Professional Experience

May 2012 - Associate Professor, Department of Biological Statistics and Computational Biology and Department of Statistical Science, Cornell University.

> **July 2016 -** Director of Undergraduate Studies, Biometry and Statistics Major, Cornell University

> **June 2012 - June 2016** Director of Graduate Studies, Graduate Field of Statistics, Cornell University.

> **June 2012 - September 2013** Director of Graduate Studies, Graduate Field of Biometry, Cornell University.

August 2006 - May 2012 Assistant Professor, Department of Biological Statistics and Computational Biology and Department of Statistical Science, Cornell University.

October 2004- August 2006 Post-Doctoral Fellow, McGill University.

June - September 2003 Intern, Robert Bosch Corp.

June 2002 - August 2002 Intern, AT&T Research.

Feb-July 2000 English Teacher, Chiang Chen Industrial Institute.

Dec 1999 - Feb 2000 Research Assistant, Research School of Information Sciences and Engineering.

Dec 1998 - Feb 1999 Intern, Commonwealth Bank of Australia.

Dec 1997 - Feb 1998 Research Scholar, University of New South Wales.

Visiting and Adjunct Positions

July 2013 - Associate Professor, Department of Healthcare Policy and Research, Weill Cornell Medical College.

May 2014 - May 2016 Visiting Fellow, Research School of Finance, Actuarial Studies and Applied Statistics, Australian National University

April - June 2014 Health Care Analytics Working Group, IBM Research.

Feb - April 2014 Department of Biostatistics, Johns Hopkins University.

Sept - Dec 2013 Department of Mathematics and Statistics, University of Melbourne.

Sept - Dec 2010 Program on the Analysis of Object Data, Statistics and Applied Mathematical Sciences Institute.

Grants Funded

NVIDIA Hardware Grant: "Linking Convolutional Neural Networks, Random Forests and Statistical Inference", PI.

NIH R03DA036683, 2014: "Shortening the SOAPP-R: Computer-based opioid risk assessment", $160,579, co-PI with M. Finkelman.

NSF DEB-1353039, 2014: "Integral Projection Models for Populations in Varying Environments: Construction and Analysis", $652,847, co-PI with S. Ellner, P. Adler and R. Snyder.

NSF DEB-125619, 2013: "Effects of Rapid Consumer Evolution on Community Dynamics: predictions and Tests in a (Nearly) Natural Food Web", $200,000, co-PI with S. Ellner and N. Hairstone.

CTSC Community Engagement Award, 2011: "HCV Testing in NYC Commercial Sex Venues", $20,000, co-I with K. Marks and D. Daskalakis.

NSF CDI Type II 1125098, 2011: "Bircast: Novel Machine Learning Methods for Understanding Continent-Scale Migration", $1,217,895. co-I with S. Kelling, and T. Diettrich.

NSF DMS-1053252 CAREER, 2010: "Diagnostics and Experimental Design for Nonlinear Dynamics", $400,000. PI.

NSF CMG-0934735, 2009: "Functional modeling of climate-ecosystem dynamics", $350,000, co-PI with S. Ray and M. Friedl.

NSF DEB-0813743, 2008: "Rapid Evolution and the Dynamics of Complex Ecological Communities", $539,957, co-PI with S. Ellner, L. Jones and N. Hairstone.

Hatch NYC-150446, 2007: "Experimental Design for Nonlinear Processes in Agriculture", $30,000, PI.

Books

Ramsay, James 0., **Giles Hooker** and Spencer Graves, 2009, "Functional Data Analysis in R and Matlab", Springer.

Papers

1. Liu, Chong, Surajit Ray and **Giles Hooker**, 2016, "Functional Principal Components Analysis of Spatially Correlated Data", *Journal of Computational and Graphical Statistics* in press.

2. Mentch, Lucas and **Giles Hooker**, 2016, "Formal Hypothesis Tests for Additive Structure in Random Forests", *Journal of Computational and Graphical Statistics*, in press.

3. **Hooker, Giles** and Steven Roberts, 2016, "Maximal Autocorrelation Functions in Functional Data Analysis", *Statistics and Computing*, 26(5):945-950.

4. Earls, Cecilia and **Giles Hooker**, 2016, "Adapted Variational Bayes for Functional Data Registration, Smoothing, and Prediction", *Bayesian Analysis*, in press.

5. Hall, Peter and **Giles Hooker**, 2016, "Truncated Linear Models for Functional Data". *Journal of the Royal Statistical Society, Series B*, 78(3):637-653

6. **Hooker, Giles**, 2016, "Consistency, Efficiency and Robustness of Conditional Disparity Methods", *Bernoulli*, 22(2):857-900

7. Kang, Keegan and **Giles Hooker**, 2016, "Improving the Recovery Of Principal Components with Semi Deterministic Random Projections", *Proceedings of the 50th Annual Conference on Information Science and Systems*.

8. Earls, Cecilia and **Giles Hooker**, 2016, "Combining Functional Data Registration and Factor Analysis", *Journal of Computational and Graphical Statistics*, in press.

9. Kang, Keegan and **Giles Hooker**, 2016, "Block Correlated Deterministic Random Projections", *Proceedings of the 6th Conference on Computational Mathematics, Computational Geometry and Statistics.*

10. Teller, Brittany J., Peter B. Adler, Collin B. Edwards, **Giles Hooker**, Robin E. Snyder and Stephen P. Ellner, 2016, "Linking demography with drivers: climate and competition", *Methods in Ecology and Evolution*, 7(2):171-183.

11. Mentch, Lucas and **Giles Hooker**, 2015, "Quantifying Uncertainty in Random Forests via Confidence Intervals and Hypothesis Tests", *Journal of Machine Learning Research*, 17(3):1-41

12. Grinspan, Zachary, M., JS Shapiro, Erika L. Abramson, **Giles Hooker**, Rainu Kaushal and Lisa M. Kern, 2015, "Predicting Frequent ED Use By People with Epilepsy with Health Information Exchange Data", *Neurology*, 85(12):1031-1038.

13. **Hooker, Giles**, James O. Ramsay and Luo Xiao, 2015, "CollocInfer: Collocation Inference in Differential Equation Models", *Journal of Statistical Software*, in press.

14. **Hooker, Giles** and Stephen P. Ellner, 2015, "Goodness of Fit Diagnostics in Nonlinear Dynamics: Mis-specified Rates or Mis-specified States?". *Annals of Applied Statistics*, 9(2):754-776.

15. **Hooker, Giles**, Kevin K. Lin and Bruce Rogers, 2015, "Control Theory and Experimental Design in Diffusion Processes", *Journal of Uncertainty Quantification*, 3(1):234-264.

16. McLean, Matthew W., **Giles Hooker** and David Ruppert , 2014, "Restricted Likelihood Ratio Tests for Linearity in Scalar-on-Function Regression", *Statistics and Computing*, 25(5):997-1008.

17. Hiltunen, Teppo, Stephen P. Ellner, **Giles Hooker**, Laura E. Jones, Nelson G. Hairston, 2014, "Eco-evolutionary Dynamics in a Three-Species Food Web with Intraguild Predation: Intriguingly Complex" in *Advances in Ecological Research, Vol. 50 – Eco-Evolutionary Dynamics*, Jordi Moya-Laraño, Jennifer Rowntree and Guy Woodard, Editors.

18. Hiltunen, Teppo, Nelson G. Hairstone, **Giles Hooker**, Laura E. Jones and Stephen P. Ellner, 2014, "A newly discovered role of evolution in previously published consumer-resource dynamics", *Ecology Letters*, 17(8):915-923.

19. **Hooker, Giles** and Anand N. Vidyashankar, 2014, "Bayesian Model Robustness via Disparities", *TEST*, 23(3):556-584.

20. McLean, Matthew W., **Giles Hooker**, Ana-Maria Staicu, Fabian Schiepl and David Ruppert, 2014, "Functional Generalized Additive Models", *Journal of Computational and Graphical Statistics*, 23(1):249-269.

21. Earls, Cecilia, and **Giles Hooker**, 2014, "Bayesian Covariance Estimation and Inference in latent Gaussian Process Models", *Statistical Methodology*, 18:79-100

22. Asencio, Maria, **Giles Hooker** and H. Oliver Gao, 2014, "Functional Convolution Models", *Statistical Modeling*, 14(4):1-21.

23. Lou, Yin, Rich Caruana, Johannes Gehrke and **Giles Hooker**, 2013, "Accurate Intelligible Models with Pairwise Interactions", *Proceedings of the 19th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*.

24. Gibbons, Robert D., **Giles Hooker**, Matthew D. Finkelman, David J. Weiss, Paul A. Pilkonis, Ellen Frank, Tara Moore and David J. Kupfer, 2013, "Computerized Adaptive Diagnosis of Depression Using the CAD-MDD", *Journal of Clinical Psychiatry*, 74(7): 669-674.

25. Jesty, S.A., S.W. Jung, J.M. Cordeiro, T.M. Gunn, J.M. Di Diego, S. Hemsley, B.G. Kornreich, **G. Hooker**, C. Antzelevitch, N.S. Moise, 2013, "Cardiomyocyte calcium cycling in a naturally occurring German shepherd dog model of inherited ventricular arrhythmia and sudden cardiac death", *Journal of Vetinary Cardiology* 15(1): 5-14.

26. **Hooker, Giles** and James Ramsay, 2012, "Learned-Loss Boosting", *Computational Statistics and Data Analysis*, 56:3935-3944.

27. Campbell, David, **Giles Hooker** and Kim McAuley, 2012, "Parameter Estimation in Differential Equation Models with Constrained States", *Journal of Chemometrics*, 56:322-332.

28. **Hooker, Giles** and Saharon Rosset, 2012, "Prediction-Focussed Regularization Using Data-Augmented Regression", *Statistics and Computing*, 1:237-248.

29. Liu, Chong, Surajit Ray, **Giles Hooker** and Mark Friedl, 2012, "Functional Factor Analysis for Periodic Remote Sensing Data", *Annals of Applied Statistics*, 6:601-624.

30. Zeremski, Marija, **Giles Hooker**, Marla A. Shu, Emily Winkelstein, Queenie Brown, Don C. Des Jarlais, Leslie H. Tobler, Barbara Rehermann, Michael P. Busch, Brian R. Edlin, and Andrew H. Talal, 2011, "Induction of CXCR3- and CCR5-associated Chemokines during Acute Hepatitis C Virus Infection.", *Journal of Hepatology*, 55:545-553.

31. **Hooker, Giles**, Stephen P. Ellner, Laura de Vargas Roditi and David J. D. Earn, 2011, "Parameterizing State-space Models for Infectious Disease Dynamics by Generalized Profiling: Measles in Ontario", *J. Royal Society Interface*, 8:961-975.

32. Finkelman, Matthew, **Giles Hooker** and Zhen Wang, 2010, "Prevalence and Magnitude of Paradoxical Results in Multidimensional Item Response Theory", *J. Educational and Behavioral Statistics*, 35:744-761.

33. **Hooker, Giles**, 2010, "On Separable Tests, Correlated Priors and Paradoxical Results in Multidimensional Item Response Theory", *Psychometrika*, 75:694-707.

34. Fink, Daniel, Wesley M. Hochachka, Benjamin Zuckerberg, David W. Winkler, Ben Shaby, M. Arthur Munson, **Giles Hooker**, Mirek Riedewald, Daniel Sheldon and Steve Kelling, 2010, "Spatiotemoral Exploratory Models for Broad-scale Survey Data", *Ecological Applications*, 20:2121-22147.

35. Atam, Ercan and **Giles Hooker**, 2010, "An Identification-based State Estimation Method for a Class of Nonlinear Systems". *J. Systems and Control Engineering*, 224:349-359.

36. **Hooker, Giles** and Matthew Finkelman, 2010, "Paradoxical Results and Item Bundles". *Psychometrika*, 75:249-271.

37. Kelling, Steve, Wesley M. Hochachka, Daniel Fink, Mirek Riedewald, Rich Caruana, Grant Ballard and **Giles Hooker**, 2009,"Data Intensive Science: A New Paradigm for Diversity Studies". *Biosciences*, 59:613-620.

38. **Hooker, Giles**, Matthew Finkelman and Armin Schwartzman, 2009, "Paradoxical Results in Multidimensional Item Response Theory". *Psychometrika*, 74:419-442.

39. **Hooker, Giles**, 2009, "Forcing Function Diagnostics for Nonlinear Dynamics". *Biometrics*, 65:928-936.

40. Gelzer, Anna, Marcus L. Koller, Niels F. Otani, Jeffrey J. Fox, M. W. Enyeart, **Giles Hooker**, Mark L. Riccio, Carlo R. Bartoli and Robert F. Gilmour, 2008, "Dynamic Mechanisms for Initiation of Ventricular Fibrillation in vivo", *Circulation*, 118:1123-1129.

41. Ramsay, James 0., **Giles Hooker**, David Campbell and Jiguo Cao, 2007. "Parameter Estimation for Nonlinear Differential Equations: A Smoothing-Spline Approach". *Journal of the Royal Statistical Society, Series B*, with discussion 69:741796.

42. **Hooker, Giles**, 2007. "Generalized Functional ANOVA Diagnostics for High Dimensional Functions of Dependent Variables". *Journal of Computational and Graphical Statistics*. 16:709-732.

43. Norris, Robert, Jessica Ngo, Karen Nolan and **Giles Hooker**, 2005. "Volunteers are Unable to Properly Apply Pressure Immobilization in a Simulated Snakebite Scenario". *Journal of Wilderness and Environmental Medicine*, 16:16-21.

44. **Hooker, Giles** and Matthew Finkelman, 2004. "Sequential Analysis for Learning Modes of Browsing". *WEBKDD 2004: Proceedings of the Sixth International Workshop on Knowledge Discovery from the Web*.

45. **Hooker, Giles**, 2004. "Diagnosing Extrapolation: Tree-Based Density Estimation". *Proceedings of the Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*.

46. **Hooker, Giles**, 2004. "Discovering Additive Structure in Black Box Functions". *Proceedings of the Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*.

47. Shirts, Michael, Eric Bair, **Giles Hooker** and Vijay Pande, 2003. "Equilibrium Free Energies from Non-equilibrium Estimates Using Maximum Likelihood Methods". *Physical Letters Review*. 91(14):140601.

48. Hegland, Markus, **Giles Hooker** and Stephen Roberts. 1999. "Finite Element Thin Plate Splines in Density Estimation". In *Computational Techniques and Applications, Proceedings of the Ninth Biennial Conference: CTAC99.* Journal of the Australian Mathematics Society.

Technical Reports and Commentary

1. **Hooker, Giles** and Lucas Mentch, 2016, "Comments On: A Random Forest Guided Tour", *TEST* 25(2):254-260.

2. **Hooker, Giles**, 2013, "On the Identifiability of the Functional Convolution Model", Technical Report BU-1681-M, Department of Biological Statistics and Computational Biology, Cornell University.

3. **Hooker, Giles**, 2013, "A review of Boosting: Foundations and Algorithms by Schapire and Freund", *Journal of the American Statistical Association*, 108(502):750-754..

4. **Hooker, Giles** and Anand Vidyashankar, 2011, "Consistency and Efficiency of Conditional Disparity Methods", Technical Report BU-1670-M, Department of Biological Statistics and Computational Biology, Cornell University.

5. **Hooker, Giles** and Stephen P. Ellner, 2010, "On Forwards Prediction Error", Technical Report BU-1679-M, Department of Biological Statistics and Computational Biology, Cornell University.

6. **Hooker, Giles**, 2010, "Comments on: Dynamic Relations for Sparsely Sampled Gaussian Processes", *TEST*, 19:50-53.

7. Finkelman, Matthew, **Giles Hooker** and Zhen Wang, 2009, "Unidentifiability and Lack of Monotonicity in the Multidimensional Three-Parameter Logistic Model". Technical Report BU-1678-M, Department of Biological Statistics and Computational Biology, Cornell University.

8. **Hooker, Giles** and Lorenz T. Biegler, 2007. "IPOPT and Neural Dynamics: Tips, Tricks and Diagnostics", Technical Report BU-1676-M, Department of Biological Statistics and Computational Biology, Cornell University.

9. **Hooker, Giles**, 2007. "Theorems and Calculations for Smoothing-Based Profiled Estimation of Differential Equations". Technical Report BU-1671-M, Department of Biological Statistics and Computational Biology, Cornell University.

10. Schwartzman, Armin, Matthew Finkelman and **Giles Hooker**, 2004. "The Stanford Statistics Songbook: A Musical Tribute". Technical Report, Department of Statistics, Stanford University.

11. **Hooker, Giles** and Fuliang Weng, 2004. "Subset Selection in Large, Sparse Systems: An application of the Forward Stagewise approach to Natural Language Processing". Technical Report, Robert Bosch Corporation.

12. **Hooker, Giles**, 1999. "Developing a Spline-Smoothed Density". Technical Report, Research School of Information Sciences and Engineering, Australian National University.

Public Engagement

Blog: Of Models and Meanings

http://blogs.cornell.edu/modelmeanings/

STATS.org 08/11/2015: Online dating and the statistical dark arts

http://www.stats.org/online-dating-and-the-statistical-dark-arts/

STATS.org 11/24/2015: Racism, redcards and rabbit holes

http://www.stats.org/racism-redcards-and-rabbit-holes/

geneticsexperts.org: 12/16/2015 New analysis finds environmental factors, not random mutations, contribute to majority of cancer risk

http://geneticexperts.org/environmental-factors-not-random-mutations-contribute-to-majority-of-cancer-risk/

Manuscripts Under Review

Zhou, Yichen and **Giles Hooker**, "Interpreting Models via Single Tree Approximation".

Hooker, Giles and Cliff Hooker, "Machine Learning and the Future of Realism".

Hooker, Giles and Lucas Mentch, "Bootstrap Bias Corrections for Ensemble Methods".

Wu, Yuefeng and **Giles Hooker**, "Hellinger Distance and Bayesian Non-Parametrics: Hierarchical Models for Robust and Efficient Bayesian Inference".

McLean, Matthew W., Fabian Scheipl, **Giles Hooker**, Sonja Greven and David Ruppert, "Bayesian Functional Generalized Additive Models with Sparsely Observed Covariates".

Thorbergsson, Leifur and **Giles Hooker**, "Experimental Design for Partially Observed Markov Decision Processes".

Software Development

Author: "AdaLoss: Adaptive-Loss Boosting", Matlab routines.

Author: "CollocInfer: Collocation Inference in Nonlinear Stochastic Dynamics", `R` functions and Manual.

Developer: `fda` library in `R` and Matlab for Functional Data Analysis.

Author: "ProfileDE: Smoothing Methods for Nonlinear Dynamics". Manual and Matlab Software.

Editorial Service

- Editorial Board Member, STATS.org, 2015 -
- Associate Editor, Journal of the American Statistical Association, 2014 - 2018.
- Associate Editor, Journal of the Royal Statistical Society, 2013 - 2015.
- Associate Editor, Electronic Journal of Statistics, 2010 - 2013.
- Program Committee member, International Workshop on Statistical Modeling, July 2009.

Professional Service

- Co-organizer, Workshop on Distributed Data for Dynamics and Manifolds, Banff International Research Station, September 2017.

- Co-organizer, Invited Session on "Machine Learning and Statistical Inference: Building Breiman's Bridge", JSM 2017.

- Co-organizer, Cornell Day of Statistics, September 2015, 2016.

- Advisory Board, Pediatric Epilepsy Research Foundation grant for "Care Management for Pediatric Epilepsy: Predictive Modeling and Evaluation".

- Organizer, Invited Session on "Statistical Inference with Random Forests and Related Ensemble Learners", ENAR 2015.

- Organizer, Workshop on Statistics and Nonlinear Dynamics in Biology and Medicine, Banff International Research Station, July 2014.

- Organizer, Topic Contributed Session on "Disparities as Nonparametric Interfaces to Parametric Models", Joint Statistical Meetings, August 2013.

- Organizer, Workshop on Recent Advances in Statistical Inference for Mathematical Biology, Mathematical Biology Institute, 2012.

- Working group leader, "Dynamics and Inference", SAMSI Program of the Analysis of Object Data, 2010-2011.

- Organizer, Topic Contributed Session on "New Advances in Disparity and Divergence Methods for Statistical Inference", Joint Statistical Meetings, August 2010.

- Organizer, Workshop on Statistical Methods for Dynamic Systems Models, Vancouver, June 2009.

- Organizer, Topic Contributed Session on "Statistical Methods for Differential Equation Models with Scientific Applications", Joint Statistical Meetings, August 2008.

- Organizer, Invited Session on "Advances in Functional Data Analysis", Joint Statistical Meetings, August 2008.

- Organizer, Topic Contributed Session on "Statistics for Nonlinear Dynamics", Joint Statistical Meetings, August 2007.

- Organizer, Workshop on Statistical Methods for Modeling Dynamical Systems, Centre des Recherches Mathematiques, Montreal. July 2007.

Teaching

BTRY 4030: Linear Models with Matrices Fall 2016

BTRY 4090: Theory of Statistics Fall 2015

BTRY 6020: Statistical Methods II Spring 2009, 2010, 2011, 2015

BTRY 7950: Graduate Student Consulting Unit Spring/Fall 2006-2008, 2011, 2014

BTRY 6520: Computationally Intensive Methods in Statistics Fall 2014

STSCI 7740: Predictive Competitions Spring 2013

BTRY 3520: Statistical Computing Spring 2012, 2013

BTRY 6940: Inference in Nonlinear Dynamics Fall 2012

BTRY 7180: Generalized Linear Models Fall 2011

BTRY 6150: Applied Functional Data Analysis Fall 2008

BTRY 694: Theory of Multivariate Statistics Spring 2008, Fall 2009

BTRY 694: Statistical Learning Theory Fall 2007

BTRY 694: Functional Data Analysis Spring 2007

Math 204: Principles of Statistics II. Department of Mathematics and Statistics Winter 2005 (McGill University)

2001 - 2004 Teaching Assistant, Statistics Dept, Stanford University.

Tutor, Math 100, Mathematics Dept, Australian National University, 1999

Mathematics and Philosophy Tutor, Burgmann College, 1997

Short Courses

Functional Data Analysis: Methods and Computing, *Joint Statistical Meetings*, Seattle, August 8, 2015

Functional Data Analysis, *International Workshop on Statistical Modeling*, Glasgow, July 3, 2010

Cornell Statistical Consulting Unit Workshop: Introduction to Functional Data Analysis, Spring 2008, Spring 2009

Students

Yichen Zhou   PhD   Current

Zi Ye   PhD   Current

Sarah Tan   PhD   Current

Keegan Kang   PhD   Current

David Sinclair   PhD   Current

Lucas Mentch   PhD   2015   Asst. Prof. University of Pittsburgh
Statistical Inference with Ensemble Methods in Machine Learning

Leifur Thorbergson   PhD   2014   Memorial Sloan Kettering Cancer Center
Experimental Design for Partially Observed Markov Decision Processes

Cecilia Earls   PhD   2014   Lecturer, Cornell University
Bayesian Hierarchical Gaussian Process Models for Functional Data Analysis

Chong Liu   PhD (with S. Ray)   2013   State Street Global Advisors
Boston University
Functional Principal Component and Factor Analysis of Spatially Correlated Data

Mathew McLean   PhD   2013   Postdoc with Matt Wand
(with D. Ruppert)
On Generalized Additive Models for Regression with Functional Data

Yuefeng Wu   Postdoc   2009-2011   Asst. Prof. Missouri State, St Louis
Bayesian Nonparametrics in Minimum Hellinger Distance Estimates

Maria Asencio   MSc   2010   Mosaic ATM
Functional Convolution Models

Graduate Student Committees

Kelly Kirtland	PhD	2016	Statistics
Yanning Liu	PhD	2016	Statistics
Jon Steingrimsson	PhD	2015	Statistics
Muting Wan	PhD	2014	Statistics
Andre Martins	PhD	2014	Computational Biology
Yin Lou	PhD	2014	Computer Science
Ben Dalziel	PhD	2014	Ecology and Evolutionary Biology
Xun Wang	PhD	2013	Civil and Environmental Engineering
Laura de Vargas Roditi	PhD	2013	Computational Biology
Daniel Ly	PhD	2013	Mechanical Engineering
Scott Asay	PhD	2013	Accounting
Caitlin Cunningham	PhD	2012	Statistics
Luo Xiao	PhD	2012	Statistics
Nikolaus Karampatziakis	PhD	2012	Computer Science
Michael Adams	MSc	2011	Food Sciences
Dennis Oransky	MSc	2011	Statistics
Yingxing Li	PhD	2010	Statistics

David Clement	PhD	2010	Statistics
Nam Nguyen	PhD	2010	Computer Science
Darrell Sonntag	PhD	2009	Civil and Environmental Engineering
Kathryn Barger	PhD	2008	Statistics
Daria Sorokina	PhD	2007	Computer Science
Emmanuel Asaba	MSc	2007	Civil and Environmental Engineering

Invited Talks (last 10 years)

2016

"Subsample Trees and CLTs: Inference for Machine Learining", Statistics Seminar, Simon Fraser University, November 2016.

"Truncated Linear Models for Functional Data", Royal Statistical Society Meetings, JRSSB Editors Invited Session, September 2016.

"On the Range of Integration of a Functional Linear Model", CRoNoS Workshop on Functional Data Analysis, August 2016.

"Testing High Dimensional Interactions with Random Forests", COMPSTAT, August 2016.

"Testing High Dimensional Interactions with Random Forests", International Chinese Statistics Symposium, July 2016.

"Three Unidentfiable Problems in Functional Data Analysis", Workshop on Functional Data Analysis, Les Diablerets, May 2016.

"Subsample Trees and CLTs: Inference for Machine Learining", Statistics Seminar, Temple University, February 2016.

2015

"Tests for Lack of Fit and Missing State Variables in Ordinary Differential Equation Models", York University, October 2015.

"Tests for Lack of Fit and Missing State Variables in Ordinary Differential Equation Models", University of Michigan, September 2015.

"Modeling Covariance in Functional Data Analysis", Joint Statistical Meetings, August 2014.

"An ODE to Statistics: Inference for Nonlinear Dynamics", Statistics Seminar, Syracuse University, January 2015.

"Subsample Trees and CLTs: Inference for Machine Learining", Biostatistics Seminar, Weil Cornell Medical College, January 2014.

2014

"Subsample Trees and CLTs: Inference for Machine Learining", Statistics Seminar, North Carolina State University, October 2014.

"Subsample Trees and CLTs: Inference for Machine Learining", Artificial Intelligence Seminar, Cornell University, October 2014.

"Robustness, Inference and Gradient Matching", BIRS Workshop on Statistics and Nonlinear Dynamics in Biology and Medicine, July 2014.

"Domain Selection and Truncated Functional Linear Models", IMS Meetings, July 2014.

"Experimental Design in Stochastic Dynamic Systems", Mathematics and Business Analytics Seminar, IBM Research, June 2014.

"Ensemble Trees and CLTs: Inference for Machine Learning", Health Care Analytics Seminar, IBM Research, April 2014.

"Experimental Design in Stochastic Dynamic Systems", Statistics Seminar, University of British Columbia, January 2014.

"Tests for Lack of Fit and Missing State Variables in Ordinary Differential Equation Models", Statistics Seminar, Simon Fraser University, January 2014.

2013

"Robust and Efficient Analysis of Conditionally-Specified Models via Disparities", Summer Camp, Australian National University, December 2013.

"Paradoxical Results in Multidimensional Item Response Theory", Applied Statistics Seminar, Australian National University, November 2013.

"Robust and Efficient Analysis of Conditionally-Specified Models via Disparities", Statistics Seminar, University of Melbourne, October 2013.

"Control Theory and the Design of Dynamic Experiments", Statistics Seminar, University of California at Davis, 2013.

"Measures of Robustness in Regularized Estimates", Joint Statistical Meetings, August 2013.

"Measures of Robustness in Regularized Estimates", International Conference on Ro-

bust Statistics, July 2013.

"Functional Convolution Models: Design and Domain Selection", Statistical Society of Canada Meetings, June 2013.

"Control Theory and the Design of Dynamic Experiments", Mathematics Seminar, De Paul University, April 2013.

"Robust and Efficient Analysis of Conditionally-Specified Models via Disparities", Statistics Seminar, University of Wisconsin, Madison, April 2013.

"Control Theory and the Design of Dynamic Experiments", Mathematics Seminar, Karlsruhe Institute für Technologie, January 2013.

2012

"Control Theory and the Design of Dynamic Experiments", Greek Stochastics Meetings, August, 2012.

"Control Theory and the Design of Dynamic Experiments", Statistical Society of Canada Meetings, June 2012.

"Detecting Evolution in Experimental Ecology: Diagnostics for Missing State Variables", Statistics Seminar, Cornell University, March 2012.

"Robust and Efficient Analysis of Conditionally-Specified Models via Disparities", Statistics Seminar, University of Waterloo, January 2012.

"Robust and Efficient Analysis of Conditionally-Specified Models via Disparities", Statistics Seminar, University of Chicago, January 2012.

"Detecting Evolution in Experimental Ecology: Diagnostics for Missing State Variables", Ecology and Evolution Seminar, University of Chicago, January 2012.

"Detecting Evolution in Experimental Ecology: Diagnostics for Missing State Variables", Biostatistics Seminar, Johns Hopkins University, January 2012.

2011

"Bayesian Robustness via Disparities", International Conference on Advances in Probability and Statistics, Hong Kong, December 2011.

"Robustness, Efficiency and Regularization in Model Selection: LASSO with Disparities", Conference on Statistical Concepts and Methods for the Modern World, Colombo, Sri Lanka, December 2011.

"Robustness and Efficiency in Conditionally Specified Models via Disparities", 2011 International Forum on Modern Statistics and Econometrics, Wang Yanan Institute for Studies in Economics, Xiamen, China, December 2011.

"Detecting Evolution in Experimental Ecology: Diagnostics for Missing State Variables", Applied Mathematics Seminar, University of Colorado, December 2011.

"Detecting Evolution in Experimental Ecology: Diagnostics for Missing State Variables", Colloque de Statistique de Montréal, Centre de Recherces Mathématiques, Montreal, December 2011.

"Robust and Efficient Analysis of Conditionally-Specified Models via Disparities", University of Michigan, September 2011.

"Functional Convolution Models, Design and Domain Selection", The University of Melbourne, June 2011.

"Robust and Efficient Analysis of Non-Stationary Data via Disparities", Macquarie University, June 2011.

"Functional Convolution Models", ENAR, March 2011.

2010

"Paradoxical Results in Multidimensional Item Response Theory", UNC STOR Colloquium, December 2010.

"Control Theory and the Design of Dynamic Experiments", SAMSI Transition Workshop on Stochastic Dynamics, November 2010.

"Nonlinear Regression and Bayesian Robustness via Disparities", Joint Statistical Meetings, August 2010

"Robust and Bayesian Analysis of Non-Stationary Data via Disparities", Cornell University, April 2010.

"An ODE to Statistics: Data Analysis for Nonlinear Dynamics", George Mason University, February 2010

2009

"Paradoxical Results in Multidimensional Item Response Theory", International Workshop on Statistical Modeling, July 2009

"Modeling Measles Epidemics with Smoothed Trajectory Profiling", Applied Statistics Symposium, International Chinese Statistical Association, June 2009.

"Measles, School Holidays, Generalized Profiling and Forwards Cross Validation", Workshop on Statistical Methods for Dynamic Systems Models", Vancouver, June 2009.

2008

"Data Analysis with Differential Equations", Thomas Jefferson University, November 2008.

"Inference from Black Boxes", BIRS Workshop on Understanding the New Statistics: Expanding Core Statistical Theory, September 2008.

"Testing for Latent Dynamical Components", Invited Session on Mechanistic Models, Joint Statistical Meetings, August 2008.

"Discovering Missing Components in Nonlinear Dynamics", Statistics Seminar, University of British Columbia, March 2008.

"Likelihood and Fairness in Multidimensional Item Response Theory", Statistics Seminar, Cornell University, February 2008.

2007

"Statistics for Nonlinear Dynamics". Computational Biology Seminar, Cornell University, November 2007.

"Smoothing Methods for Nonlinear Differential Equations", Seminar on High-Dimensional and Correlated Data, Harvard School of Public Health, November 2007.

"Diagnostics for Nonlinear Dynamics", Statistics Seminar, Boston University, November 2007.

"Boosted Estimates of Conditional Densities and Quantiles", International Symposium on Business and Industrial Statistics-2007, August 2007.

"Fitting Qualitative Features in Neural Models", CRM Workshop on Statistics for Nonlinear Dynamics, July 2007.

"Maximum Likelihood Estimates of Conditional Distributions", BIRS Workshop on Complex Data Structures. April 2007.