

Robert T. Krafty

Assistant Professor
Department of Statistics
University of Pittsburgh
2702 Cathedral of Learning
Pittsburgh, PA 15260

Phone: (412) 648-9382
Fax: (412) 648-8814
krafty@pitt.edu

Research Interests:

Longitudinal Data Analysis, Time Series Analysis, Functional Data Analysis, Applications in Psychiatry

Education:

University of Pennsylvania, Philadelphia, PA

Ph.D. in Biostatistics

August 2007

Dissertation Title: *Penalized Analysis of Correlated Functional Data*

Dissertation Advisor: Wensheng Guo

MA in Mathematics

May 2002

SUNY at Stony Brook, Stony Brook, NY

BS in Mathematics and Dance, summa cum laude, Honor's College

May 2000

Honors and Awards:

Saul Winegrad Award

2008

ENAR Distinguished Paper Travel Award

2006

University of Pennsylvania's Award for Outstanding Teaching

2002

Barry Goldwater Scholarship

1999

Phi Beta Kappa

1998

Professional Activities:

Regional Advisory Board Member – International Biometrics Society

2010-2012

Reviewer for: *Annals of Statistics*, *Journal of the American Statistical Association*, *Biometrics*,

Journal of the Royal Statistical Society Series B

Grant Support:

NSF DMS-0805050 : Statistical Methods for Dependent Data (PI: Stoffer)

7/1/2008-6/30/2009

Role: Co-PI Effort = 20%

NIA AG020677-06A1: Aging Well, Sleeping Efficiently (PI: Monk)

5/1/2010-4/30/2015

Role: Co-PI Effort = 12%

NHLBI R01104607-01: Sleep: a Novel Pathway Linking Major Depression and Cardiovascular Disease (PI: Hall)

8/1/2010-7/30/2015

Role: Co-PI Effort = 12%

Publications:

1. Orsini, J. A., Parsons, C. S., **Krafty, R. T.**, Capewell, L., and Boston, R. (2007) "Risk Factors for Acute Laminitis in Horses during Hospitalization: 73 cases (1997-2004)." *Journal of the American Veterinary Association*. **6**, 885-889.
2. Holtz, D. O., **Krafty, R. T.**, Zhang, L., Alagkiozidis, I., Courrèges, M. C., Chu, C. S., Leiby, B., Benencia, F., Guo, W., Gimotty, P. A., Coukos, G. (2008) "Impact of Tumor VEGF on the Efficacy of Combinatorial Chemo-Antiangiogenesis Therapy: Preclinical Modeling in Ovarian Cancer." *Journal of Translational Medicine*. **6**.
3. **Krafty, R. T.**, Gimotty, P. A., Cookous, G., Holtz, D., Guo, W, (2008) "Varying-Coefficient Model with Unknown Within-Subject Covariance for the Analysis of Tumor Growth Curves." *Biometrics*. **64**, 1023-1031.
4. Wiebe, D. J., **Krafty, R. T.**, Kopper, C. S., Nance, M. L., Elliott, M. R., Branas, C. C. (2009) "Homicide and Geographic Access to Gun Dealers in the United States." *BMC Public Health*. **9**: 199.
5. Okun, M. L., **Krafty, R. T.**, Monk, T., Reynolds III, C. F., Buysse, D. J., Begley, A., Hall, M. (2010) "What Constitutes too Long of a Delay? Determining the Cortisol Awakening Response (CAR) Using Self-Report and PSG-Assessed Wake Time." *Psychoneuroendocrinology*. **35**: 460-468.
6. Park, T., **Krafty R. T.**, and Sanchez, A. I. (2010) "Bayesian Analysis of a Poisson Change-Point Model in the Presence of Covariates and an Unknown Number of Change-Points." Submitted.
7. **Krafty, R. T.**, Guo, W., and Hall, M. (2010) "Functional Mixed-Effects Spectral Analysis." Submitted.
8. Sanchez, A. I., Villaveces, A., **Krafty, R. T.**, Park, T., Weiss, H. B., Fabio, A., Puyana, J. C., and Gutierrez-Martinez, M. I. (2010). "Policies for Alcohol Restrictions and Their Effects on Interpersonal Violence Deaths: A Time-Series Analysis of Homicides in Cali, Colombia." Submitted.
9. Sanchez, A. I., **Krafty, R. T.**, Weiss, H. B., Rubian, A. M., Peitzman, A. B. and Puyana, J. C. (2010) "Trends in survival and early functional outcomes from severe adult traumatic brain injuries, Pennsylvania, US, 1998-2007: secondary data analysis of the Pennsylvania Trauma Outcome Study database." Submitted.
10. Hall, M., Yao, Z., and **Krafty, R. T.** "Measuring Sleep: How do Diaries and Wrist Actigraphy Stack Up to Polysomnography?" Submitted.
11. **Krafty, R. T.** "A Note on Pre-Smoothing Functional Data in the Smoothing Spline Estimation of a Mean Function." Submitted.
12. **Krafty, R. T.**, Guo, W., and Hall, M. (2010) "Classification of Families of Locally Stationary Time Series." In Preparation.
13. **Krafty, R. T.** and Hall, M. "Canonical Correlation Analysis of Time Varying Spectra and Cross-Sectional Data." In Preparation.

Invited Presentations:

“CCA of Spectral and Cross-Sectional Data”	
WNAR Annual Meeting, Seattle, WA	6/19/2010
Data Mining and Non-Parametrics, Columbus, OH	5/21/2010
“Functional Mixed-Effects Spectral Analysis”	
ENAR Spring Meeting, New Orleans, LA	3/22/2010
Brown University, Center for Statistical Science	9/12/2009
“Discrimination of Non-Stationary Time Series.”	
University of Pittsburgh, Department of Biostatistics	9/10/2009
Meeting of the Classification Society	6/12/2009
Penn State University, Department of Statistics	2/8/2009
ENAR Spring Meeting, Washington, DC.	3/23/2008
“Penalized Functional Principal Components Analysis Using a K-L Criterion.”	
University of Wisconsin, Departments of Biostatistics and Statistics	2/28/2007
University of Pittsburgh, Department of Statistics	2/19/2007
George Washington University, Department of Statistics	2/13/2007
University of Florida, Department of Biostatistics	2/6/2007
Harvard School of Medicine	2/2/2007
The Ohio State University, Department of Biostatistics	2/1/2007
Virginia Commonwealth University, Departments of Biostatistics	11/3/2006
“Varying-Coefficient Model With Unknown Within-Subject Covariance for the Analysis of Tumor Growth Curves.”	
JSM Annual Meeting, Seattle, WA.	8/9/2006
“Data Driven Functional Principal Components Analysis.”	
ENAR Spring Meeting, Tampa, FL.	3/27/2006
University of Pennsylvania, Division of Biostatistics	2/14/2006

Teaching Experience:

Graduate Courses at the University of Pittsburgh:

Applied Statistical Methods I (STAT 2131)	Fall 2007
Applied Statistical Methods II (STAT 2132)	Spring 2008, 2009, 2010
Applied Advanced Time Series (STAT 2321)	Fall 2008
Advances in Applied Statistics: Functional Data Analysis (STAT 2391)	Fall 2009

Undergraduate Courses at the University of Pittsburgh:

Basic Applied Statistics (STAT 200)	Fall 2009, Spring 2010
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Graduate Student Supervision:

Seo Hyon Baik (Statistics)	Member: Ph.D Committee, 2009-Present
Dongli Zhou (Statistics)	Member: Ph.D Committee, 2009-Present
Mengyuan Zhao (Statistics)	Member: Ph.D Committee, 2009-Present
Jonathan Livengood (Philosophy of Science)	Member: Ph.D Committee, 2009-Present
Nan Zhao (Statistics)	Member: Ph.D Committee, 2009-Present
Jiaqing Xu (Mathematics)	Member: Ph.D Committee, 2009-Present
Junming Huang (Mathematics)	Member: Ph.D Committee, 2009-Present