WESLEY BROOKS

Department of Statistics
University of Wisconsin - Madison
1300 University Avenue
Madison, WI 53706

Mobile: (608)561-2172

email: brooks.wesley@gmail.com
http://somesquares.org/

EDUCATION

Ph.D. Statistics Expected in May 2015
University of Wisconsin - Madison, Madison, WI
GPA: 3.58/4.0
Dissertation: Local variable selection in spatially varying coefficient models: Theory, Methods, and Computation
Advisor: Dr. Jun Zhu

M.S. Statistics May 2012
University of Wisconsin - Madison, Madison, WI

B.S. Electical Engineering, Math May 2007
University of Alaska, Fairbanks
GPA: 3.66/4.0

RESEARCH INTERESTS

Spatial statistics	Nonparametric regression
Variable selection	Multimodel inference
Statistical computing	Bootstrap methods

EXPERIENCE

Research Assistant September 2010 – Present
Department of Statistics, University of Wisconsin - Madison
Advisor: Dr. Jun Zhu
- Research in the field of spatial statistics.
- Local variable selection and coefficient estimation for varying coefficient models.
- Spatial smoothing of tree biomas estimates for ecological models.

Student Trainee (Hydrology) January 2010 – Present
United States Geological Survey, Wisconsin Water Science Center
Collaborators: Dr. Mike Fienen and Steve Corsi
- Regression models for predicting *E. coli* concentration in beach water.
- Developing software, GUI to make modern regression techniques accessible to beach managers.

Project Assistant September 2009 – June 2010
Department of Statistics, University of Wisconsin - Madison
Advisor: Dr. Kyung-Mann Kim
- Assisted with statistics for analysis of clinical trials.
- Teaching Assistant for STAT 542, "Intro to Clinial Trials".

Electrical Engineer Trainee June 2003 – August 2009
Boreal Controls
Supervisor: Greg Smith
- Programming and troubleshooting industrial control panels in remote locations while remaining on-line.
- Designing, building and installing industrial control systems.
- Applications in water, wastewater treatment; fish processing; mining.

PUBLICATIONS

Brooks, W. R., Fienen, M. N., and Corsi, S. R. (2013) "Partial least squares for efficient models of fecal indicator bacteria on Great Lakes beaches". Journal of Environmental Management (114), 470–475.

Danz, M. E., Corsi, S.R., **Brooks, W. R.**, and Bannerman, R. T. (2013) "Characterizing response of total suspended solids and total phosphorus loading to weather and watershed characteristics for rainfall and snowmelt events in agricultural watersheds". Journal of Hydrology (507), 249–261.

In review

Brooks, W. R., Zhu, J., and Lu, Z. (2014) "Local adaptive grouped regularization and its oracle properties for varying coefficient regression". In review.

In Preparation

Brooks, W. R. and Zhu, J. (2015) "Inference for local model selection and coefficient estimation via local adaptive grouped regularization in varying coefficient regression models". In preparation.

PRESENTATIONS, POSTERS

Paleo-ecology observatory network workshop, Madison, May 2013
Title: "Modeling PalEON Biomass".
National Water Quality Monitoring Conference, Portland, Oregon, 2012
Invited Talk: "Bayesian surprise as a tool for monitoring sensor networks".

American Water Resources Association - Wisconsin Section, Appleton, Wisconsin, 2011
Collaborators: Dr. Mike Fienen and Steve Corsi
Invited Talk: "Modern statistical methods for predicting bacterial exceedances in beach water".

Great Lakes Beaches Conference, Presque Isle, Pennsylvania, 2010
Collaborators: Dr. Mike Fienen, Steve Corsi, David Sibley, and Carolyn Emmanuelli
Poster: "Web based tools to expand access to beach water quality monitoring".

AWARDS, PRODUCTS, AND OTHER

Data visualization working group (`http://wisc-vis.github.io`) (registered student organization). President, 2013–2014.

Student seminar organizer, 2012–2013.

Virtual Beach (Exposure assessment software) - Led development of version 3.0 (2013)
Collaborators: Dr. Mike Cyterski (United States Environmental Protection Agency) and Steve Corsi (United States Geological Survey)

Best coverage of a single news topic or event: Milwaukee Press Club. "Analysis: Emails favored Walker 2-1". (with Kate Golden, Lauren Hasler, Julie Strupp, Cailly Morris, and Andrew Averill). 2012.

Selected as the outstanding example of the final exam for the M.S. degree in statistics. University of Wisconsin-Madison, December 2011.

COMPUTING INTERESTS

Programming Languages: R, Python, and C++.

Interests: Interactive data visualization (e.g., d3.js and Shiny), reproducible research, parallel computing (e.g., HTCondor).

REFERENCES

Prof. Jun Zhu
Professor of Statistics
University of Wisconsin - Madison
Department of Statistics
1300 University Avenue
Madison, WI 53706
Tel: 608-263-3615
email: jzhu@stat.wisc.edu

Prof. Bret Hanlon
Assistant Professor of Statistics
University of Wisconsin - Madison
Department of Statistics
1300 University Avenue
Madison, WI 53726
Tel: 608-262-2539
email: hanlon@stat.wisc.edu

Dr. Mike Fienen
Research Hydrologist
United States Geological Survey
Wisconsin Water Science Center
8505 Research Way
Middleton, WI 53562
Tel: 608-821-3894
email: mnfienen@usgs.gov

Steve Corsi
Research Hydrologist, Chemistry
United States Geological Survey
Wisconsin Water Science Center
8505 Research Way
Middleton, WI 53562
Tel: 608-821-3835
email: srcorsi@usgs.gov