

Chae Young Lim

<http://www.stt.msu.edu/~lim>

lim@stt.msu.edu

Department of Statistics and Probability
Michigan State University, East Lansing, MI, 48824, USA
1-517-353-7154 (Office), 1-517-432-1405 (Fax)

ACADEMIC APPOINTMENTS

Assistant Professor	08/2007 - , Department of Statistics and Probability(STT), Michigan State University(MSU)
Research/Teaching Assistant	09/2002- 08/2007, Department of Statistics, The University of Chicago

EDUCATION

PhD	in Statistics 2007	The University of Chicago Advisor: Michael Stein
M.Ed	in Mathematics Education 2000	Seoul National University (SNU)
B.Sc	in Mathematics Education 1997	Seoul National University, KOREA

RESEARCH INTERESTS

- Spatial Statistics, Spatial Epidemiology, Environmental Statistics, Spectral Analysis, Fixed-domain Asymptotics.

PUBLICATIONS (* is a student author.)

Peer-Reviewed Articles:

1. Dass, S. C. **Lim, C.** Maiti, T. and Zhang*, Z. Clustering Curves based on Change point analysis : A Nonparametric Bayesian Approach. Accepted by *Statistica Sinica*.
2. Zhang*, Z., **Lim, C.** and Maiti, T. (2014) Analyzing 2000-2010 Childhood Age-adjusted Cancer Rates in Florida: A Spatial Clustering Approach. *Statistics and Public Policy*, 1:1, 120–128.
3. Dass, S. C. **Lim, C.** and Maiti, T. (2014) A Generalized Mixed Model Framework for Assessing Fingerprint Individuality in Presence of Varying Image Quality. *Annals of Applied Statistics*, 8, 1314-1340.
4. Maiti, T., Ren*, H., Dass, S. C., **Lim, C.** and Maier, K. S. (2014) Clustering-Based Small Area Estimation: An Application to MEAP Data. *Calcutta Statistical Association Bulletin*, 66, 73–93.
5. **Lim, C.**, Meerschaert, M. M. and Scheffler, H.-P., (2014) Parameter estimation for operator scaling random fields. *Journal of Multivariate Analysis*, 123, 172-183.
6. Wu*, W., **Lim, C.** and Xiao, Y. (2013) Tail Estimation of the Spectral Density for a Stationary Gaussian Random Field. *Journal of Multivariate Analysis*, 116, 74-91.
7. Dey, T. and **Lim, C.** (2013) Comparisons of Computational Methods for Clustered Binary Data. *Journal of Statistical Computation and Simulation*, doi:10.1080/00949655.2012.678852

8. Dass, S. C., **Lim, C.** and Maiti, T. (2012), Default Bayesian Analysis for Hierarchical Spatial Multivariate Generalized Linear Mixed Models. *Statistica Sinica*, 22, 231-248.
9. **Lim, C.** and Dass, S. C. (2011), Assessing Fingerprint Individuality Using EPIC: A Case Study in the Analysis of Spatially Dependent Marked Processes, (Featured article of the issue) *Technometrics*, 53, 112-124.
10. **Lim, C.**, Stein, M. L., Ching, J. and Tang, R. (2010), Statistical properties of differences between low and high resolution CMAQ runs with matched initial and boundary conditions, *Environmental Modelling & Software*, 25, 158-169.
11. Chakraborty, P., Meerschaert, M. M. and **Lim, C.** (2009), Parameter Estimation for Fractional Transport: A Particle Tracking Approach, *Water Resources Research*, 45, W10415, doi:10.1029/2008WR007577
12. Guo, H., **Lim, C.** and Meerschaert, M. M. (2009), Local Whittle estimator for anisotropic random fields, *Journal of Multivariate Analysis*, 100, 993-1028 .
13. **Lim, C.** and Stein, M. L. (2008), Properties of spatial cross-periodograms using fixed-domain asymptotics, *Journal of Multivariate Analysis*, 99, 1962-1984.

Working papers:

1. Feng*, W., **Lim, C.**, Maiti, T. and Zhang, Z. Simultaneous Estimation of Disease Risks and Spatial Clustering: A Hierarchical Bayes Approach. Revision submitted.
2. Dass, S. C. and **Lim, C.** A Semi-Parametric Hierarchical Bayes Approach for Assessing the Extent of Fingerprint Uniqueness. Submitted.
3. Wu*, W. and **Lim, C.** Estimation of smoothness of a stationary Gaussian random field. Submitted.
4. Pramanik, S., Watve, A., Jung, S. and **Lim, C.** Data Independent Vantage Point Selection For Range Queries. Submitted.
5. Gharahi, H., Zambrano, B.A., **Lim, C.**, Choi, J., Lee, W., Baek, S. On growth measurements of abdominal aortic aneurysms using maximally inscribed sphere. Submitted.
6. Nandy*, S., **Lim, C.** and Maiti, T. Additive model building for spatial regression. Submitted.
7. Do, H. N., Jadaliha, M., Choi, J. and **Lim, C.** Feature selection for robot position estimation using an omnidirectional camera.
8. Zambrano, B. A., Gharahi, H., **Lim, C.** , Choi, J. Lee, W., Baek, S. Association of intraluminal thrombus layer with abdominal aortic aneurysm expansion using longitudinal CT images.
9. Feng*, W., **Lim, C.** and Maiti, T. Variable Selection for Binary Spatial Regression: Penalized Quasi-Likelihood Approach
10. Zhang*, L, Mrkva, J, Seyed-salehi, S., Choi, J., **Lim, C.**, Maiti, T and Baek, S. Patient-Specific Prediction of Abdominal Aortic Aneurysm Expansion using Bayesian Calibration.

Book Reviews:

1. **Lim, C.** (2011) Book Review of “Handbook of Spatial Statistic” by Alan E. Gelfand, Peter J. Diggle, Montserrat Fuentes and Peter Guttorp (eds.) *Journal of the American Statistical Association*, 106, 1637-1648.
2. **Lim, C.** (2010), Book Review of “Statistical Detection and Surveillance of Geographic Clusters” by Peter Rogerson and Ikuho Yamada, *Journal of the American Statistical Association*, 105, 1276-1283.

Other Articles:

1. Dass, S. C., **Lim, C.** and Maiti, T. (2011) A Generalized Mixed Model Framework for Assessing Fingerprint Individuality in Presence of Varying Image Quality. In *JSM Proceedings, Statistical Computing Section*. Alexandria, VA: American Statistical Association, 258-270.
2. Maiti, T., Ren, H., Dass, S. C., **Lim, C.** and Maier, K. S. (2011) Clustering-Based Small Area Estimation: An Application to MEAP Data. In *JSM Proceedings, Statistics and the Environment Section*. Alexandria, VA: American Statistical Association, 494-507.
3. Dass, S. C., **Lim, C.** and Maiti, T. (2011) Hierarchical Spatial Regression Models for Change Point Analysis. In *JSM Proceedings, Survey Research Methods Section*. Alexandria, VA: American Statistical Association, 3119-3133.
4. Dass, S. C., **Lim, C.** and Maiti, T. (2010) Experiences with Approximate Bayes Inference for the Poisson-CAR Model, Technical Report RM 679, Department of Statistics and Probability, Michigan State University.

HONORS and AWARDS

- Honourable Mention in **Mitchell Prize** 2013, International Society for Bayesian Analysis.
- **Frank Wilcoxon Prize** for the best practical application paper in Technometrics for the year 2011.
- **Outstanding Statistical Application Award** 2012, American Statistical Association,
- Raj Bahadur Fellowship, The University of Chicago, Summer 2003
- Scholarship for outstanding students, SNU 1996
- Chunjae Education Scholarship, SNU 1994, 1995

GRANTS

- National Institutes of Health R21: Quantitative Analysis of Relationships Among Hemodynamics, Thrombus, and Abdominal Aortic Aneurysm Expansion, \$388,493, 03/01/2013-02/28/2015, Co-I.
- National Science Foundation (NSF DMS 1106450): Modeling, Computational and Inferential Issues in Fingerprint and Health Monitoring Applications, \$ 169,495, 09/15/2011-09/14/2014 (no cost extension until 08/31/2015), Current PI.
- MSU Intramural Research Grants Program (IRGP-1532): Estimations and their asymptotic properties in a frequency domain for spatial processes. \$35,683, 12/2008-06/2010, PI.

PROFESSIONAL ACTIVITIES/COMMITTEE

Conference session organizer/chair

- Session organizer of a topic contributed program on “Penalized Quasi-likelihood Estimating Equations and Variable Selection for Spatial Data” in JSM 2014, Boston, MA, USA, Aug 2014
- Session organizer of special session on “Variable selection and its applications to spatial data” in Spatial Statistics 2013, Columbus, OH, USA, June 2013
- Session chair of a topic contributed session on “Recent Advances in Theory and Methods of Spatial Statistics” in JSM 2012, San Diego, CA, USA, Aug 2012

- Session organizer/chair of an invited program on “Computational and inferential issues in spatio-temporal modeling” in JSM 2011, Miami, FL, USA, Aug 2011

Referee

Annals of Statistics, Communications in Statistics, Environmetrics, Environmental and Ecological Statistics, Journal of American Statistical Association, Journal of Business & Economic Statistics, Journal of the Korean Statistical Society, Journal of Multivariate Analysis, Journal of Statistical Planning and Inference, Journal of Stochastic Environmental Research & Risk Assessment, KSCE Journal of Civil Engineering, Linear Algebra and its Applications, Sankhya B, Scandinavian Journal of Statistics, Statistica Sinica, Statistical Analysis and Data Mining, Statistics and Probability Letter, TEST.

Grant Review

- Ad hoc review panel for National Science Foundation, 2010.

Doctoral Thesis Advising

- Abdhi Sarkar, 2013-.
- Guiling Shi (co-advising with Dr. Maiti), 2013-.
- Liangliang Zhang (co-advising with Dr. Maiti), 2013-.
- Siddartha Nandy (co-advising with Dr. Maiti), 2012- .
- Xin Qi, 2014, AbbVie Inc.
- Wei-Ying Wu (co-advising with Dr. Xiao), 2011, assistant professor at National Dong Hwa University, Taiwan.

Committee at MSU

- Graduate Support Committee (STT): 2010-2014
Subcommittee of Master program admission: 2011-2014
Subcommittee of PhD program admission: 2012-2014.
- Master Exam Committee (STT): 2007- 2010, Chair 2009- 2010
- Math Library Committee (STT): 2008- 2011
- Master Students Advisor (STT): 2009- 2010
- Faculty Advisory Council (College of Natural Science, MSU): Fall 2007, Fall 2011

Committee at Professional Organizations

- Edward C. Bryant Scholarship Committee, ASA: 1/1/2015- 12/31/2017

PROFESSIONAL MEMBERSHIPS

- American Statistical Association
- Institute of Mathematical Statistics
- International Society for Bayesian Analysis
- Korean International Statistical Society

TALKS/PRESENTATIONS

1. JSM 2014, Topic contributed Session, Boston, MA, USA, August 2014
2. IISA 2014, Invited Session, Riverside, CA, USA, July 2014
3. IMS-APRM 2014, Topic contributed Session, Taipei, Taiwan, July 2014.

4. Colloquium in Department of Statistics, Western Michigan University, MI, USA, November 2013.
5. Colloquium in Department of Statistics and Probability, Michigan State University, MI, USA, September 2013.
6. JSM 2013, Topic contributed Session, Montreal, Canada, August 2013.
7. Spatial Statistics 2013, Special session, Columbus, OH, USA, June 2013.
8. Midwest Statistics Research Colloquium, Invited Talk, University of Wisconsin, Madison, WI, USA, March 2013
9. Colloquium in Department of Statistics, Texas A&M University, College Station, TX, USA, March 2013
10. ISBA Regional Meeting and IWCBT, Invited Talk, Varanasi, Banaras Hindu University, India, January 2013
11. Colloquium in Department of Mathematics Education, Seoul National University, Seoul, Korea, December, 2012
12. Colloquium in Department of Statistics, Sookmyung Women's University, Seoul, Korea, December 2012
13. JSM 2012, Topic contributed Session, San Diego, CA, USA, Aug 2012.
14. Colloquium in Department of Mathematics and Statistics, University of Maryland, Baltimore County, MD, USA, Nov 2011
15. Student seminar, Department of Statistics and Probability, Michigan State University, MI, USA, Oct 2011
16. JSM 2011, Topic contributed Session, Miami Beach, FL, USA, Aug 2011
17. KSS ICSP (Korean Statistical Society International Conference on Statistics and Probability), Busan, Korea, July 2011
18. Colloquium in Department of Statistics, Seoul National University, Seoul, Korea, June 2011
19. Colloquium in Department of Statistics and Probability, Michigan State University, MI, USA, Sept 2010
20. JSM 2010, Topic contributed Session, Vancouver, BC, Canada, Aug 2010
21. JRC (Joint Research Conference) 2010, Invited Program, NIST, Gaithersburg, MD, USA, May 2010
22. JSM (Joint Statistical Meeting) 2009, Topic Contributed Session, Washington D.C. USA, Aug 2009
23. Inverse Problems Symposium 2009, East Lansing, MI, USA, May 2009
24. Atmospheric Sciences Modeling Division, U.S. Environment Protection Agency, Research Triangle Park, NC, USA, August 2007

TEACHING EXPERIENCES

- STT802 Statistical Computation (Fall 2014)
Department of Statistics and Probability, MSU
- STT868 Mixed Models (Spring 2014)
Department of Statistics and Probability, MSU
- STT351 Probability and Statistics for Engineers (Fall 2012, Fall 2013)
Department of Statistics and Probability, MSU

- STT997 Advanced Topics in Statistics (Spring 2012)
Department of Statistics and Probability, MSU
- STT865 Modern Statistical Methods (Spring 2010)
Department of Statistics and Probability, MSU
- STT441 Probability and Statistics I (Spring, Fall 2010, Fall 2013)
Department of Statistics and Probability, MSU
- STT890 Statistical Problems: Introduction to Spatial Statistics (Summer 2009)
Department of Statistics and Probability, MSU
- STT442 Probability and Statistics II (Spring 2009,2011,2012,2013)
Department of Statistics and Probability, MSU
- STT862 Theory of Statistics and Probability II (Spring 2008)
Department of Statistics and Probability, MSU
- STT861 Theory of Statistics and Probability I (Fall 2007, 2008)
Department of Statistics and Probability, MSU
- STAT200 Elementary Statistics (Autumn 2005)
Department of Statistics, The University of Chicago

Last updated: 12/14