

## Mikyoung Jun

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Department of Statistics  
3143 TAMU  
Texas A & M University  
College Station, TX 77843-3143

Phone: (979) 845-3141  
Fax: (979) 845-3144  
[mjun@stat.tamu.edu](mailto:mjun@stat.tamu.edu)  
<http://www.stat.tamu.edu/~mjun/>

### Education

Ph.D. Statistics, University of Chicago, 2005  
MStat courses completed. Statistics, Seoul National University, 2000  
B.S. Statistics, Seoul National University, 1999,  
*Cum Laude*, Valedictorian

### Employment

Associate Professor (with Tenure), Department of Statistics, Texas A& M University, Sep 2012 - present  
Assistant Professor, Department of Statistics, Texas A& M University, Aug 2005 - Aug 2012  
Visiting faculty, Institute for Applied Mathematics, University of Heidelberg, Oct 2013 - Dec 2013  
Visiting faculty, Department of Statistics, Seoul National University, June 2013 - Sep 2013  
Adjunct Associate Professor, Department of Biostatistics, The University of Texas MD Anderson Cancer Center, Sep 2012 - Aug 2013  
Adjunct Assistant Professor, Department of Biostatistics, The University of Texas MD Anderson Cancer Center, Apr 2012 - Aug 2012  
Visiting Scientist, Center for Integrating Statistical and Environmental Science, University of Chicago, Summer 2006, June 2007 - September 2007  
Visiting Scientist, National Center for Atmospheric Research, Aug 2005 - Dec 2005

### Honors & Awards

Interdisciplinary Seed Grant in Big Data program of the Texas A&M Engineering Experiment Station and the Dwight Look College of Engineering (joint with R. Saravanan and Courtney Schumacher), Jan 2016  
ASA (Section on Statistics and the Environment) Young Investigator award, August 2015  
Elected member of ISI, since Feb 2015  
Faculty Development Leave, Texas A&M University, Fall 2013  
ASA travel grant for the 59th WSC, 2013  
University Fellowship and Assistantship, Department of Statistics, University of Chicago, 2000-2005  
ASA/ENVR student paper competition, *Honorable Mention*, Joint Statistical Meeting 2004  
NSF travel grants (two), 2003  
*Raj Bahadur Fellowship*, Department of Statistics, University of Chicago, Summers 2001  
Honors Scholarship, Department of Statistics, Seoul National University, 1995-2000  
Korean Research Association Fellowship, 1998-1999

## Grants

NSF DMS-1613003, (sole-) PI, August 2016 - August 2019  
NSF DMS-1208421, (sole-) PI, July 2012 - Jun 2016  
NSF DMS-0906532, (sole-) PI, Sep 2009 - Aug 2012  
KAUST GRP Award grant, Investigator, June 2008 - May 2013  
NSF ATM-0620624 (CMG grant), co-PI, Sep 2006 - Aug 2010

## Invited Talks

- ICSA China Conference, Qingdao, China, July 2018 (planned)
- IMS-APRM, Singapore, June 2018 (planned)
- Department of Statistics, Purdue University, September 2017 (planned)
- Department of Statistical Science, Baylor University, September 2017 (planned)
- TIES-GRASPA 2017 Conference, Bergamo, Italy, July 2017
- Department of Statistics, Iowa State University, April 2017
- 10th ICSA International Conference, Shanghai, China, December 2016
- ICSA Applied Statistics Symposium, Atlanta, June 2016
- IMAGe, NCAR, May 2016
- Department of Biostatistics, Yale University, March 2016
- Department of Statistics, Kansas State University, March 2016
- Joint Statistical Meeting, Seattle, August 2015 (invited poster session)
- 60th ISI World Statistics Congress, Rio de Janeiro, Brazil, July 2015
- Department of Political Science, Kyungpook National University, Daegu, Korea, June 2015
- Department of Statistics, Penn State University, April 2015
- Department of Statistics, UC Davis, January 2015
- Geospatial Sciences, Applications and Technology and GIS Day 2014 seminar, Texas A&M University, November 2014
- Department of Statistics (Hao Zhang's seminar class), Purdue University, November 2014
- STATMOS regular online seminar series, September 2014
- Pan-Asian Advanced Study Institute on Spatio-Temporal Statistics, Buzios, Brazil, June 2014
- The Ensemble Kalman Filter Workshop, Buffalo, NY, May 2014
- UC Davis Statistical Science Symposium, Davis, CA, April 2014
- Conference on Spatial statistics for environmental and energy challenges, KAUST, Saudi Arabia, March 2014
- Institute of Mathematics, University of Zurich, December 2013
- Annual workshop on Graphical Models, University of Heidelberg, November 2013
- Stat+Climate workshop, SARMA, Oslo, November 2013
- Institute for Applied Mathematics, University of Heidelberg, October 2013
- Department of Environmental Engineering, Postech, September 2013
- Department of Statistics, Seoul National University, September 2013
- Department of Statistics, Hankuk University of Foreign Studies, September 2013
- 59th ISI World Statistics Congress, Hong Kong, August 2013
- The IASC satellite conference for the 59th ISI WSC, Yonsei University, Korea, August 2013

- Joint Statistical Meeting, Montreal, Canada, August 2013
- European Meeting of Statisticians, Budapest, Hungary, July 2013
- 12th International Meeting on Statistical Climate, Jeju, Korea, June 2013
- Department of Statistics and probability, Michigan State University, December 2012
- AISC, Greensboro, NC, October 2012
- ENVR, Raleigh, NC, October 2012
- STATMOS (Statistical Climatology), Seattle, WA, August 2012
- WNAR, Fort Collins, CO, June 2012
- Interface 2012, Houston, TX, May 2012
- Institute for Applied Mathematics, University of Heidelberg, May 2012
- Department of Applied Statistics, Yonsei University, July 2011
- Conference for the 40th anniversary of Korean Statistical Society, July 2011
- Department of Applied Statistics, Konkuk University, June 2011
- Department of Financial Engineering, Ajou University, June 2011
- Department of Statistics, Korea University, June 2011
- Environmetrics Conference, Boulder, CO, Oct 2010
- Conference on Resampling Methods and High Dimensional Data, TAMU, College Station, Mar 2010
- Data Assimilation in the Geosciences workshop, TAMU, College Station, Oct 2009
- Opening workshop for the program on Space-time Analysis for Environmental mapping, Epidemiology, and Climate change, SAMSI, RTP, Sep 2009
- Korea Meteorological Administration, Seoul, Korea, July 2009
- IMS-China International Conference on Statistics and Probability, Weihai, China, July 2009
- IMS Asian Pacific Rim Meeting, Seoul, Korea, June 2009
- Department of Mathematics and Statistics, Duksung Women's University, June 2009
- Department of Biostatistics, University of Texas MD Anderson Cancer Center, Nov 2008
- Department of Statistics, Rice University, Sep 2008
- Department of Management Science and Statistics, University of Texas, San Antonio, Oct 2007
- Department of Statistics, University of Wisconsin, Madison, Oct 2007
- Joint Statistical Meeting, Salt Lake City, UT, Aug 2007
- Korean Statistical Association Meeting, Busan, Korea, May 2007
- Random Matrix Workshop, NCAR, CO, May 2007
- INFORMS, Pittsburgh, PA, Nov 2006
- Department of Statistics, University of Georgia, Oct 2006
- ENAR, Tampa, FL, Mar 2006
- Statistical Research Center for Complex System, Seoul National University, Seoul, Korea, Jan 2006
- WNAR/IMS, Fairbanks, AK, June 2005
- Department of Statistics, Harvard University, Feb 2005
- Department of Statistics, University of California, Irvine, Feb 2005
- Department of Statistics, Colorado State University, Feb 2005
- Department of Statistics, University of Toronto, Feb 2005
- Department of Statistics, Texas A&M University, Feb 2005

- Department of Statistics, Carnegie Mellon University, Feb 2005
- Department of Statistics, University of Florida, Jan 2005
- Department of Statistics, University of Illinois, Urbana-Champaign, Jan 2005
- Department of Statistics, North Carolina State University, Jan 2005

### Contributed Talks

- Joint Statistical Meeting, Boston, MA, August 2014 (topic-contributed)
- Climate modeling opening workshop of SAMSI UQ program, Pleasanton, CA, August 2011 (poster)
- ENAR, Miami, FL, Mar 2011
- Joint Statistical Meeting, Vancouver, BC, Aug 2010 (discussant in a topic-contributed session)
- Climate Change workshop for the program on Space-time Analysis for Environmental mapping, Epidemiology, and Climate change, SAMSI, RTP, Feb 2010 (poster)
- Spring Symposium, Institute for Applied Mathematics and Computational Science, College Station, TX, May 2009 (poster)
- Multivariate Methods in Environmetrics (CISES/ASA), Chicago, IL, Oct 2006 (poster)
- Joint Statistical Meeting, Seattle, WA, Aug 2006 (topics contributed session)
- IMS New Researcher's Conference, Seattle, WA, Aug 2006 (poster)
- Joint Statistical Meeting, Toronto, Canada, Aug 2004
- Graybill conference, Colorado State University, Fort Collins, CO, June 2004 (poster)
- Chicago Joint Conference on the Environment, Chicago, IL April 2004 (poster)
- Workshop on Internet Tomography and Sensor Network, SAMSI, NC, Oct 2003 (poster)

### Publications

(\* denotes students)

- Jeong, J., **Jun, M.**, Genton, M.G. (2017+). Covariance Models for Global Spatial Statistics. *Statistical Science*, To appear.
- Lee, M., Genton, M.G., **Jun, M.** (2016). Testing self-similarity through Lamperti transformations. *Journal of Agricultural, Biological, and Environmental Statistics*, Vol 21, pp. 426-447.
- Kim, Y.\*, **Jun, M.**, Min, S.-K., Suh, M.-S., Kang, H.-K. (2016). Spatial analysis of future East Asian summer temperature using two regional climate model simulations. *Asia-Pac. J. Atmos. Sci.*, Vol 52, pp. 237-249.
- Roh, S.\*, **Jun, M.**, Szunyogh, I., Genton, M. (2015). Multivariate localization methods for Ensemble Kalman Filtering. *Nonlinear Processes in Geophysics*, Vol 22, pp. 723-735.
- Lee, M., **Jun, M.**, Genton, M.G. (2015). Validation of CMIP5 multi-model ensembles through the smoothness of climate variables. *Tellus A*, 67, 23880, <http://dx.doi.org/10.3402/tellusa.v67.23880>.
- Jeong, J.\*, **Jun, M.** (2015). Covariance models on the surface of a sphere: when does it matter? *STAT*, Vol 4, pp. 167-182.
- Philbin, R.\*, **Jun, M.** (2015). Bivariate Spatial Analysis of Temperature and Precipitation from General Circulation Models and Observations. *Advances in Statistical Climatology, Meteorology and Oceanography*, Vol 1, pp. 29-44.
- Park, S.\*, Navratil, S., Gregory, A., Bauer, A., Srinath, I., Szonyi, B., Nightingale, K., Anciso, J., **Jun, M.**, Han, D., Lawhon, S., and Ivanek, R.. (2015). Multifactorial Effects of Ambient Temperature, Precipitation, Farm Management, and Environmental Factors Determine the Level of Generic *Escherichia coli* Contamination on Preharvested Spinach. *Applied and Environmental Micro Biology*, Vol 81, pp. 2637-2650.

- Jeong, J.\*, **Jun, M.** (2015). A class of Matérn-like covariance functions for smooth processes on a sphere. *Spatial Statistics*, Volume 11, pp. 1-18.
- **Jun, M.**, Katzfuss, M., Hu, J. and Johnson, V.E. (2014). Assessing fit in Bayesian models for spatial processes. *Environmetrics*, Volume 25, pp. 584-595.
- **Jun, M.** (2014). Matérn-based nonstationary cross-covariance models for global processes. *Journal of Multivariate Analysis*, Volume 128, pp. 134-146.
- Park, S.\*, Navratil, S., Gregory, A., Bauer, A., Srinath, I., Szonyi, B., Nightingale, K., Ancisco, J., **Jun, M.**, Han, D., Lawhon, S., Ivanek, R. (2014). Farm management, environment and weather factors jointly affect the probability of spinach contamination with generic *Escherichia Coli* at the preharvest level. *Applied and Environmental Microbiology*, Volume 80, pp. 2504-2515.
- Roh, S.\*, Genton, M.G., **Jun, M.**, Szunyogh, I., Hoteit, I. (2013). Observation Quality Control with a Robust Ensemble Kalman Filter. *Monthly Weather Review*, Volume 141, pp. 4414-4428.
- **Jun, M.**, Park, E.S. (2013). Multivariate receptor modeling for spatially correlated multi-pollutant data. *Technometrics*, Volume 55, pp. 309-320.
- Park, S.\*, Navratil, S., Gregory, A., Bauer, A., Srinath, I., **Jun, M.**, Szonyi, B., Nightingale, K., Ancisco, J., Ivanek, R. Generic *Escherichia coli* contamination of spinach at the preharvest level: The role of farm management and environmental factors. *Applied and Environmental Microbiology*, Volume 79, pp. 4347-4358.
- **Jun, M.**, Genton, M.G. (2012). A test for stationarity of spatio-temporal random fields on planar and spherical domains. *Statistica Sinica*, Volume 22, pp. 1737-1764.
- Vaughan, A.\*, **Jun, M.**, Park, C. (2012). Statistical inference and visualization in scale-space for spatially dependent images. *Journal of Korean Statistical Society*, Volume 41, pp. 115-135.
- Sang, H., **Jun, M.**, Huang, J.Z. (2011). Covariance approximation for large multivariate spatial datasets with an application to multiple climate model errors. *Annals of Applied Statistics*, Volume 5, pp. 2519-2548.
- **Jun, M.** (2011). Nonstationary cross-covariance models for multivariate processes on a globe. *Scandinavian Journal of Statistics*, Vol 38, pp. 726-747.
- **Jun, M.** (2011). Discussion of “An explicit link between Gaussian fields and Gaussian Markov random fields: The stochastic partial differential equation approach” by Finn Lindgren, Håvard Rue and Johan Lindström. *Journal of the Royal Statistical Society, Series B*, 73, p. 478.
- **Jun, M.**, Szunyogh, I., Genton, M.G., Zhang, F., Bishop, C.H. (2011). A statistical investigation of the sensitivity of ensemble based Kalman filters to covariance filtering. *Monthly Weather Review*, Volume 139, pp. 3036-3051.
- **Jun, M.**, Stein, M.L. (2008). Nonstationary covariance models for global data. *Annals of Applied Statistics*, Volume 2, pp. 1271-1289.
- **Jun, M.**, Knutti, R., Nychka, D.W. (2008). Spatial Analysis to Quantify Numerical Model Bias and Dependence: How Many Climate Models Are There? *Journal of the American Statistical Association*, Volume 103, pp. 934-947.
- **Jun, M.**, Knutti, R., Nychka, D.W. (2008). Local eigenvalue analysis of CMIP3 climate model errors. *Tellus*, 60A, pp. 992-1000.
- **Jun, M.**, Stein, M.L. (2007). An Approach to Producing Space-time Covariance Functions on Spheres. *Technometrics*, Volume 49, No. 4, pp. 468-479.
- **Jun, M.**, Stein, M.L. (2004). Statistical Comparison of Observed and CMAQ Modeled Daily Sulfate Levels. *Atmospheric Environment*, Volume 38, Issue 27, pp. 4427-4436.

## Manuscripts

- **Jun, M.**, Schumacher, C., Saravanan, R. (2017). Global multivariate point pattern models for three rain type occurrences.
- Karen Poh\*, **Jun, M.**, Han, D., Bueno, R., Reyna, M., Debboun, M., Hamer, G. (2017). Effects of prior temperature and precipitation on West Niles Virus infection in *Culex quinquefasciatus* Say in Harris County, Texas (conference abstract submission).
- Ahmed Aziz Ezzat\*, **Jun, M.**, Yu Ding. (2017). Spatio-temporal asymmetry of Local Wind Fields.
- **Jun, M.** (2017). Climate model intercomparison.

## Courses taught

STAT 211: Principles in Statistics I

STAT 647: Spatial Statistics

STAT 642: Methods of Statistics II (distance program, minding)

STAT 685 (& ATMO 685): Multidisciplinary topics course for Statistics and Atmospheric Sciences

## Post-doc/Student supervision

Michael Cannady (Masters in Business Analytics program) 2017 -

Adam Krauss (Masters in Business Analytics program) 2017 -

Travis Lemon (Masters in Business Analytics program) 2017 -

Alan Reese (Masters in Business Analytics program) 2017 -

Girishan Shamnugam (Masters in Business Analytics program) 2017 -

Diego Molinari (Masters in Business Analytics program) 2017 -

Cynthia Beltran (Masters in Statistics, distance program) 2017 -

Bo Pang (Masters in Statistics, distance program) completed 2017

Ejike Edeh (Masters in Statistics, distance program) completed 2017

Robert Reynolds (Masters in Statistics, distance program) completed 2017

Casey Leek (Masters in Statistics, distance program) completed 2017

Catherine Brown (Masters in Business Analytics program) completed 2017

Stephen Duffield (Masters in Business Analytics program) completed 2017

Alfredo Escriba (Masters in Business Analytics program) completed 2017

Rupesh Koshy (Masters in Business Analytics program) completed 2017

Corey McKeon (Masters in Business Analytics program) completed 2017

Beau Rollins (Masters in Business Analytics program) completed 2017

Robert Philbin, PhD student in Statistics, 2014 - 2016

Jaehong Jeong, PhD student in Statistics, completed 2015

Myoungji Lee, Post-doc, IAMCS, jointly with Marc Genton, 2012 - 2014

Soojin Roh, PhD student in Statistics, jointly with Marc Genton, completed 2014

Patrick Herta, MS student in Statistics, completed 2016

Robert Philbin, MS student (distance degree) in Statistics, completed 2014

Forrest Womack, MS student (distance degree) in Statistics, completed 2014

Paul Reed, MS student (distance degree) in Statistics, completed 2012

Justin Chown, MS student in Statistics, jointly with Mike Sherman, completed 2011

## Services

- Associate Editor, *Journal of the American Statistical Association, Application and Case Studies*, 2016 - present
- Editor, *Journal of Agricultural, Biological, and Environmental Statistics* (book review), September 1, 2011 - 2015.
- Associate Editor, *STAT*, 2012 - present
- Associate Editor, *Journal of the Korean Statistical Society*, 2008 - present
- Node director, STATMOS, 2014 - present
- Associate Director, Program in Spatial Modeling, Department of Statistics, Texas A&M University, May 2009 - 2012
- Short course committee, World Statistics Congress, Morocco, 2016
- Program committee, JSM 2015
- Short course committee, ICSA-KISS joint meeting, Portland, 2014
- Program committee, ICSA-KISS joint meeting, Portland, 2014
- Co-organizer of summer school in Data Assimilation, NCAR, 2015
- Co-organizer of a workshop on spatial statistics, TAMU, 2015
- Co-organizer of the workshop on *Statistical methods for Climate problem*, IAMCS, Texas A&M University, Oct 2012
- Co-organizer of the workshop on *Data assimilation in the Geosciences*, IAMCS, Texas A&M University, Oct 2009
- Organizer of an invited session, CMStatistics, 2015
- Organizer of an invited session and an invited poster session, JSM, 2015
- Organizer of a topic-contributed session, JSM, 2014
- Organizer of an invited session, 3rd IMS-APRM, Taiwan, 2014
- Organizer of an invited session, ISI WSC, August 2013
- Scientific advisory board, Spatial Statistics 2013 conference, June 2013
- Organizer of a special topic session, ISBA, June 2012
- Organizer of an invited session, IMS-APRM, July 2012
- Organizer of an invited session, ENAR, Mar 2011
- Organizer of a topic contributed session, Joint Statistical Meeting, Aug 2010
- ASA/ENVR student award committee, 2006 - 2008
- Organizer of a session on *Environmental and Ecological Statistics*, Twelfth International Conference on Statistics, Combinatorics, Mathematics and Applications, Dec 2005
- National Science Foundation review panel (twice)
- Referee service: *Atmospheric Environment*, *JASA - T&M*, *JRSS B*, *JABES*, *JKSS*, *Bernoulli*, *Annals of Applied Statistics*, *Monthly Weather Review*, *Biometrics*, *Statistica Sinica*, *Environmental and Ecological Statistics*, *Environmetrics*, *Annals of Statistics*, *JASA - ACS*, *JCGS*, *Mathematical Geosciences*, *Statistical Analysis and Data Mining*, *Journal of Climate*, *Climate Dynamics*, *JSPI*, *Biostatistics*, *Advances in Statistical Climatology*, *Meteorology and Oceanography*, *STAT*
- PhD thesis committee:
  - Kyoung-Lae Noh (Electrical Engineering) - completed 2007
  - Amanda Hering (Statistics) - completed 2009
  - Heeyoul Choi (Computer Science) - completed 2010

Elizabeth Kolodziej (Statistics) - completed 2010  
Sangshin Park (Vet school) - completed 2013  
Bohai Zhang (Statistics) - completed 2015  
Christina Holt (Atmospheric Science) - completed 2014  
Tarun Verma (Atmospheric Science)  
Ji-myong Kim (Department of Construction Science) - completed 2013  
Adrian Salazar (Computer Science)  
Fan Han (Atmospheric Science)  
Wenlong Gong (Statistics)  
Ahmed Ezzat Ahmed (Industrial Engineering)  
Karen Poh (Entomology)

- Master thesis committee:

Matthew Rigney (Atmospheric Science) - completed 2009  
Kyle Borg (Atmospheric Science) - completed 2009  
Christina Holt (Atmospheric Science) - completed 2011  
Michael Kavulich (Atmospheric Science) - completed 2011  
Scott Goddard (Statistics) - completed 2012  
Yoosun Song (Computer Science) - completed 2012  
Kennth Kovats (Statistics, distance program) - completed 2015  
Lakshmi Kuchipudi (Statistics, distance program) - completed 2015  
Montana Etten-Bohm (Atmospheric Science)  
Robyn Provost (Masters in Business Analytics)  
Steven Kuo (Masters in Business Analytics)  
Jeana Guillory (Masters in Business Analytics)  
John Bonfardeci (Masters in Business Analytics)  
Adam Bemis (Masters in Business Analytics)  
Sanman Mehta (Masters in Business Analytics)

## **Professional Associations**

American Statistical Association  
International Statistical Institute  
Institute of Mathematical Statistics  
Bernoulli Society  
Korean International Statistical Society  
Korean Statistical Society