

CHEOLWOO PARK

University of Georgia
Department of Statistics
105 Statistics building
Athens, GA 30602-1952

(O) 706-542-3320
(F) 706-542-3391
cpark@stat.uga.edu
<http://www.stat.uga.edu/~cpark>

RESEARCH INTERESTS

- Multiscale (wavelet) analysis: Internet traffic and fMRI
- Nonparametric function estimation
- Statistical learning

EDUCATION

2002 Ph.D. in Statistics, Department of Statistics, Seoul National University, South Korea

Under the supervision of Professor Woo-Chul Kim:

“Wavelet Estimation of Regression Functions with Sharp Change Points”

1997 MS in Statistics, Department of Computer Science & Statistics, Seoul National University

1995 BS in Statistics, Department of Computer Science & Statistics, Seoul National University

PROFESSIONAL EXPERIENCE

2011 – Associate Professor, Statistics, University of Georgia

2005 - 2011 Assistant Professor, Statistics, University of Georgia

2004 - 2005 Visiting Assistant Professor, Statistics, University of Florida

2003 - 2004 Postdoctoral Fellow, Statistical and Applied Mathematical Sciences Institute

2002 - 2004 Postdoctoral Fellow, Statistics, University of North Carolina at Chapel Hill

2002 Postdoctoral Fellow, Research Institute of Basic Sciences, Seoul National University

1999 - 2002 Administrative Assistant, Statistics, Seoul National University

1996 - 1999 Teaching Assistant, Statistics, Seoul National University

ACADEMIC AWARDS

1998 Scholarship, Lotte Scholarship Foundation

1995 - 1996 Scholarship, Samsung Electronics, Co. Ltd.

REFEREED JOURNAL PUBLICATIONS

1. Ahn, J., Peng, M., Park, C., and Jeon, Y. (2012), A Resampling Approach for Interval-Valued Data Regression, Accepted for publication in *Statistical Analysis and Data Mining*.
2. Yoon, Y.-J., Park, C., and Lee, T. (2012), Penalized Regression Models with Autoregressive Error Terms, Accepted for publication in *Journal of Statistical Computation and Simulation*.
3. Lee, J., Park, C., Dyckman, K., Lazar, N. A., Austin, B., Li, Q., and McDowell, J. (2012), Practice-related Changes in Neural Circuitry Supporting Eye Movements Investigated via Wavelet-based Clustering Analysis, Accepted for publication in *Human Brain Mapping*.
4. Yoon, Y.-J., Park, C., Hofmeister, E., and Kang, S. (2012), Group Variable Selection in Cardiopulmonary Cerebral Resuscitation Data for Veterinary Patients, Accepted for publication in *Journal of Applied Statistics*.
5. Vaughan, A., Jun, M., and Park, C. (2012), Statistical Inference and Visualization in Scale-Space for Spatially Dependent Images, *Journal of the Korean Statistical Society*, 41, 115–135.
6. Park, C., Ahn, J., Hendry, M., and Jang, W. (2011), Analysis of Long Period Variable Stars with Nonparametric Tests for Trend Detection, *Journal of the American Statistical Association*, 106, 832–845.
7. Park, C., and Yoon, Y.-J. (2011), Bridge Regression: Adaptivity and Group Variable Selection, *Journal of Statistical Planning and Inference*, 141, 3506–3519.
8. Park, C., Hernandez-Campos, F., Le, L., Marron, J. S., Park, J., Pipiras, V., Smith, F. D., Smith, R. L., Trovero, M., and Zhu, Z. (2011), Long Range Dependence Analysis of Internet Traffic, *Journal of Applied Statistics*, 38, 1407–1433.
9. Park, C., Lazar, N., Ahn, J., and Sornborger, A. (2010), A Multiscale Analysis of the Temporal Characteristics of Resting-State fMRI Data, *Journal of Neuroscience Methods*, 193, 334–342.
10. Park, C., Lee, T., and Hannig, J. (2010), Multiscale Exploratory Analysis of Regression Quantiles using Quantile Sizer, *The Journal of Computational and Graphical Statistics*, 19, 497–513.
11. Yeon, K., Song, M., Kim, Y., Choi, H., and Park, C. (2010), Model Averaging under Concept Drift via Penalized Regression, *Journal of Computational and Graphical Statistics*, 19, 457–473.
12. Park, C., Hernandez-Campos, F., Marron, J. S., Smith, F. D., and Jeffay, K. (2010), Analysis of Dependence Among Size, Rate, and Duration in Internet Flows, *Annals of Applied Statistics*, 4, 26–52.
13. Park, C. (2010), Block Thresholding Wavelet Regression Using SCAD Penalty, *Journal of Statistical Planning and Inference*, 140, 2755–2770.
14. Park, J. and Park, C. (2009), Robust Estimation of Hurst Parameter and Selection of an Onset Scaling, *Statistica Sinica*, 19, 1531–1555.
15. Park, C., Hannig, J., and Kang, K. (2009), Improved SiZer for Time Series, *Statistica Sinica*, 19, 1511–1530.
16. Park, C., Vaughan, A., Hannig, J., and Kang, K. (2009), SiZer for the Comparison of Time Series, *Journal of Statistical Planning and Inference*, 139, 3974–3988.
17. Park, C. and Kang, K. (2008), SiZer Analysis for the Comparison of Regression Curves, *Computational Statistics and Data Analysis*, 52, 3954–3970.
18. Liu, Y., Zhang, H., Park, C., and Ahn, J. (2007), Support Vector Machines with Adaptive L_q penalty, *Computational Statistics and Data Analysis*, 51, 6380–6394.

19. Park, C., Godtlielsen, F., Taqqu, M., Stoev, S., and Marron, J. S. (2007), Visualization and Inference Based on Wavelet Coefficients, SiZer and SiNos, *Computational Statistics and Data Analysis*, 51, 5994–6012.
20. Rondonotti, V., Marron, J. S., and Park, C. (2007), SiZer for Time Series: A New Approach to the Analysis of Trends, *Electronic Journal of Statistics*, 1, 268–289.
21. Park, C., Shen, H., Hernandez-Campos, F., Marron, J. S., and Veitch, D. (2006), Capturing the Elusive Poissonity in Web Traffic, *Proceedings of 14th IEEE International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS)*, 189–196.
22. Park, C. and Kim, W. (2006), Wavelet Estimation of a Regression Function with a Sharp Change Point in a Random Design, *Journal of Statistical Planning and Inference*, 136, 2381–2394.
23. Stoev, S., Taqqu, M., Park, C., Michailidis, G., and Marron, J. S. (2006), LASS: a Tool for the Local Analysis of Self-Similarity, *Computational Statistics and Data Analysis*, 50, 2447–2471.
24. Zhang, H., Ahn, J., Lin, X., and Park, C. (2006), Gene Selection Using Support Vector Machines with Nonconvex Penalty, *Bioinformatics*, 22, 88–95.
25. Park, C., Hernandez-Campos, F., Marron, J. S., and Smith, F. D. (2005), Long-Range Dependence in a Changing Internet Traffic Mix, *Computer Networks*, 48, 401–422.
26. Stoev, S., Taqqu, M., Park, C., and Marron, J. S. (2005), On the Wavelet Spectrum Diagnostic for Hurst Parameter Estimation in the Analysis of Internet Traffic, *Computer Networks*, 48, 423–445.
27. Hernandez-Campos, F., Marron, J. S., Resnick, S. I., Park, C., and Jeffay, K. (2005), Extremal Dependence: Internet Traffic Applications, *Stochastic Models*, 21, 1–35.
28. Park, C., Marron, J. S., and Rondonotti, V. (2004), Dependent SiZer: Goodness-of-Fit Tests for Time Series Models, *Journal of Applied Statistics*, 31, 999–1017.
29. Park, C. and Kim, W. (2004), Estimation of a Regression Function with a Sharp Change Point Using Boundary Wavelets, *Statistics & Probability Letters*, 66, 435–448.
30. Kang, K., Koo, J., and Park, C. (2000), Kernel Estimation of Discontinuous Regression Functions, *Statistics & Probability Letters*, 47, 277–285.

BOOK CHAPTERS

1. Gonzalez, B., Hernandez-Campos, F., Marron, J. S., and Park, C. (2006), Visualization Challenges in Internet Traffic Research, *Graphics of Large Datasets: Visualizing a Million*, Ed: A. Unwin, M. Theus, and H. Hofmann, Springer, New York, 203–226.

BOOK REVIEWS

1. Park, C. (2011), Book review of *Sparse Image and Signal Processing: Wavelets, Curvelets, Morphological Diversity*, by Jean-Luc Starck, Fionn Murtagh, and Jalal M. Fadili, *Journal of the American Statistical Association*, 106, 770–771.

SUBMITTED PAPERS

1. Park, C. and Huh, J., Statistical Inference and Visualization in Scale-Space Using Local Likelihood, *Under revision*.
2. Jeong, S.-O., Hoss, A., Park, C., and Ryu, Y., Portfolio Selection for Socially Responsible Investment via Nonparametric Frontier Models, *Under revision*.
3. Park, C. and Huh, J., Nonparametric Estimation of a Log-Variance Function in Scale-Space, *Submitted*.
4. Lee, T., Park, C., and Yoon, Y.-J., Bridge Estimation for Linear Regression Models with Mixing Properties, *Submitted*.

INVITED and COLLOQUIUM PRESENTATIONS

- MAY 2012 Clustering Analysis of fMRI Time Series Using Wavelets, *Workshop on Bioinformatics and Biostatistics, Atlanta, GA.*
- MAR 2012 Practice-related Changes in Neural Circuitry Supporting Movements Investigated via Wavelet-based Clustering Analysis, *Research and Collaboration Forum for Southeastern Researchers in Mathematical Modeling of Biological Systems, Augusta, GA.*
- JUL 2011 Practice-related Changes in Neural Circuitry Supporting Movements Investigated via Wavelet-based Clustering Analysis, *2011 KSS International Conference on Statistics and Probability: The 40th Anniversary of the Korean Statistical Society, Busan, Korea.*
- JUN 2011 Exploratory Time Series Analysis Based on Multiscale Statistical Tools, *Konkuk University, Seoul, Korea.*
- APR 2011 Practice-related Changes in Neural Circuitry Supporting Movements Investigated via Wavelet-based Clustering Analysis, *The Seventh IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, Athens, GA.*
- MAR 2011 Analysis of Long Period Variable Stars with Nonparametric Tests for Trend Detection, *2011 ENAR Spring Meeting, Miami, FL.*
- MAY 2010 Multiscale Analysis in fMRI Studies, *Neuroscience, Behavior, and Cognition Seminar, University of Georgia, Athens, GA.*
- OCT 2009 Clustering Analysis of fMRI Time Series Using Wavelets, *Emory University, Atlanta, GA.*
- JUL 2009 Robust Estimation of Hurst Parameter and Selection of an Onset Scaling, *Roosevelt University, Chicago, IL.*
- JUL 2009 Robust Estimation of Hurst Parameter and Selection of an Onset Scaling, *Institute of Mathematical Statistics Asia Pacific Rim Meetings, Seoul, Korea.*
- JUN 2009 Exploratory Time Series Analysis Based on Multiscale Statistical Tools, *Chungang University, Seoul, Korea.*
- MAY 2009 Exploratory Time Series Analysis Based on Multiscale Statistical Tools, *Yonsei University, Seoul, Korea.*
- MAY 2009 Improved SiZer for Time Series, *Symposium on "New Directions in Asymptotic Statistics", Athens, GA.*
- JUN 2008 Exploratory Data Analysis Based on Multiscale Statistical Tools, *Korea University, Seoul, Korea.*

- NOV 2007 Multiscale Analysis with Applications of Internet Traffic and fMRI Data, *Michigan State University, East Lansing, MI.*
- OCT 2007 SiZer Analysis for the Comparison of Regression Curves, *Current and Future Trends in Non-parametrics, Columbia, SC.*
- JUN 2007 Model Averaging under Concept Drift via Penalized Regression, *International Chinese Statistical Association 2007 Applied Statistics Symposium, Raleigh, NC.*
- MAR 2007 Do Different Parts of the Brain Have the Same Dependence Structure?, *Colorado State University, Fort Collins, CO.*
- MAR 2007 Multiscale Analysis with Applications of Internet Traffic and fMRI Data, *University of Maryland at Baltimore County, Baltimore, MD.*
- DEC 2006 Capturing the Elusive Poissonity in Web Traffic, *University of Virginia, Charlottesville, VA.*
- JUN 2006 Multiscale Analysis on Internet Traffic Data, *Graybill Conference 2006, Fort Collins, CO.*
- APR 2006 Capturing the Elusive Poissonity in Web Traffic, *University of Louisiana, Lafayette, LA.*
- MAR 2006 Visualization Challenges in Internet Traffic Research, *2006 ENAR Spring Meeting, Tampa, FL.*
- NOV 2005 Statistical Tools for Internet Traffic Data Analysis, *Clemson University, Clemson, SC.*
- OCT 2005 Support Vector Machines with Various Penalties, *University of Georgia, Athens, GA.*
- JUN 2005 Statistical Tools for Internet Traffic Data Analysis, *Hankook University of Foreign Studies, Yongin, Korea.*
- APR 2005 Gene Selection Using Support Vector Machines with Nonconvex Penalty, *University of Florida, Gainesville, FL.*
- FEB 2005 Wavelet and SiZer Analyses of Internet Traffic Data, *University of Georgia, Athens, GA.*
- FEB 2005 Wavelet and SiZer Analyses of Internet Traffic Data, *Xavier University, Cincinnati, OH.*
- FEB 2005 Wavelet and SiZer Analyses of Internet Traffic Data, *Auburn University, Auburn, AL.*
- FEB 2005 Wavelet and SiZer Analyses of Internet Traffic Data, *Arizona State University at the West Campus, Phoenix, AZ.*
- NOV 2004 Statistical Analysis of Internet Traffic Data, *The 34th Annual Lloyd Roeling / University of Louisiana at Lafayette Mathematics Conference and Louisiana ASA Chapter Fall Meeting, Lafayette, LA.*
- MAY 2004 Wavelet and SiZer Analyses of Internet Traffic Data, *Interface 2004: Computational Biology and Bioinformatics, 36th Symposium on the Interface, Baltimore, MD.*
- APR 2004 Wavelet and SiZer Analyses of Internet Traffic Data, *University of Florida, Gainesville, FL.*
- MAR 2003 Two Internet Traffic Applications: Long Range Dependence and (In)Dependence of Internet Flows, *Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC.*
- MAR 2003 The Joint Distribution of Internet Flow Sizes and Durations, *Interface 2003: Security and Infrastructure Protection, 35th Symposium on the Interface, Salt Lake City, UT.*

CONTRIBUTED PRESENTATIONS

- MAR 2010 Clustering Analysis of fMRI Time Series Using Wavelets, *2010 ENAR Spring Meeting, New Orleans, LA.*
- AUG 2009 Improved SiZer for Time Series, *2009 Joint Statistical Meetings, Washington, DC.* (Topic-Contributed)
- APR 2009 Robust Estimation of Hurst Parameter and Selection of an Onset Scaling, *New England Statistics Symposium, Storrs, CT.*
- AUG 2008 A Nonparametric Significance Test of No Trend for Functional Data, *2008 Joint Statistical Meetings, Denver, CO.* (Topic-Contributed)
- MAR 2007 Multiscale Analysis on fMRI Data, *2007 ENAR Spring Meeting, Atlanta, GA.*
- AUG 2006 Visualization Challenges in Internet Traffic Research, *2006 Joint Statistical Meetings, Seattle, WA.*
- AUG 2006 Model Averaging under Concept Drift via Penalized Regression, *Ninth meeting of New Researchers in Statistics and Probability, Seattle, WA.*
- MAY 2005 Gene Selection Using Support Vector Machines with Nonconvex Penalty, *Joint Annual Meeting of the Interface and the Classification Society of North America: Clustering and Classification, Washington University, St. Louis, MO.*
- JUN 2004 Dependent SiZer: Goodness of Fit Tests for Time Series Models, *SAMSI: Network Modeling for the Internet Closing Workshop, Research Triangle Park, NC.*
- JUN 2004 Visualization and Inference Based on Wavelet Coefficients, SiZer and SiNos, *SAMSI: Network Modeling for the Internet Closing Workshop, Research Triangle Park, NC.*
- MAY 2002 Wavelet Estimation of Regression Functions with Sharp Change Points, *Korean Statistical Society, DaeJeon, Korea.*

POSTERS

- JUN 2007 A Multiscale Analysis of the Temporal and Spatial Characteristics of Resting fMRI Data, *Graybill Conference 2007, Fort Collins, CO.*
- NOV 2005 Dependent SiZer: Goodness of Fit Tests for Time Series Models, *5th Annual Redraider Mini-Symposium: Geometry, Statistics, and Image Analysis, Lubbock, TX.*
- JUN 2005 Statistical Analysis of Internet Traffic Data, *Southern Regional Council on Statistics Summer Research Conference, Clemson, SC.*

GRANTS

- 2012 PI, National Security Agency: *Semiparametric, Nonparametric and Regularized Approaches for Time Series Data* (Pending)
- 2008-2010 PI, National Security Agency: *A Scale-Space Approach for Multiple Curves Comparison* (\$29,925)
- 2006 PI, UGA Faculty Research Grants: *Significance Test of Multiple Curves Using a Scale Space Approach* (\$8,000)
- 2000 PI, Korea Research Foundation: *Wavelet Estimation of Regression Functions with Sharp Change Points* (7,200,000 won)

TEACHING

- Statistics, University of Georgia
 - STAT 4/6510 Mathematical Statistics I: Summer 2012
 - STAT 5020 Statistical Capstone Course II: Spring 2012
 - STAT 5010 Statistical Capstone Course I: Fall 2011
 - STAT 8930 Statistical Research and Professional Practice II: Spring 2011, Spring 2012
 - STAT 4/6360 Statistical Programming in SAS and R: Spring 2011
 - STAT 6360 Statistical Programming in SAS and R: Summer 2010, Summer 2011
 - STAT 6520 Mathematical Statistics II: Spring 2010
 - STAT 6510 Mathematical Statistics I: Fall 2008
 - STAT 8900 Special Topics in Statistics: Fall 2008 (with Dr. Jeongyoun Ahn)
 - STAT 4510 Mathematical Statistics I: Fall 2007, Fall 2009, Fall 2010
 - STAT 6220 Statistical Methods II: Spring 2007, Spring 2008, Spring 2009, Spring 2010, Summer 2012
 - STAT 8910 Statistical Seminar: Fall 2006, Spring 2011, Spring 2012
 - STAT 6310 Statistical Analysis I: Spring 2006, Fall 2007, Fall 2011
 - STAT 6800 Tools for Statistical Theory: Fall 2005, Fall 2006
- Statistics, University of Florida
 - STAT 6126 Statistical Methods in Social Research 1: Spring 2005
 - STAT 4322 Mathematical Statistics 2: Spring 2005 and Fall 2004
- Statistics & Operations Research, University of North Carolina at Chapel Hill
 - STAT 11 Basic Concept of Statistics and Data Analysis: Spring 2004
- Youth Education & Leadership, Myongji University
 - Statistics for Youth Education, Spring 2002
- Information Statistics, Korea National Open University
 - Statistical Software: SAS, Spring 2002

PROFESSIONAL MEMBERSHIP

Member, American Statistical Association
Member, Institute of Mathematical Statistics
Member, The Korean Statistical Society

PROFESSIONAL ACTIVITIES

2011 – Communication Director, Korean International Statistical Society
2011 – Associate Editor, Journal of the Korean Statistical Society
JUL 2012 Statistical Learning Methods in Functional/High Dimensional Data Analysis session organizer, *Institute of Mathematical Statistics Asia Pacific Rim Meetings, Tokyo, Japan.*
APR 2012 Co-Organizer, *The Third Workshop for the Network of Greater Georgia Institutions for Neuroimaging and Statistics, Athens, GA.*

- MAR 2011 Statistical Learning Methods in High Dimensional Data Analysis session organizer, *2011 ENAR Spring Meeting, Miami, FL.*
- APR 2010 Co-Organizer, *The Second Workshop for the Network of Greater Georgia Institutions for Neuroimaging and Statistics, Athens, GA.*
- JUN 2009 Multiscale Methods and Statistics session organizer, *Institute of Mathematical Statistics Asia Pacific Rim Meetings, Seoul, Korea.*
- MAY 2009 Local Organizing Committee, *Symposium on "New Directions in Asymptotic Statistics", Athens, GA.*
- AUG 2008 Technical Program Committee Member, *Fifth Conference on Email and Anti-Spam (CEAS 2008), Mountain View, CA.*
- AUG 2007 Technical Program Committee Member, *Fourth Conference on Email and Anti-Spam (CEAS 2007), Mountain View, CA.*
- JUN 2007 Regularization Methods session organizer, *International Chinese Statistical Association 2007 Applied Statistics Symposium, Raleigh, NC.*
- DEC 2005 Internet traffic session organizer, *Statistics, Combinatorics, Mathematics, and Applications 2005, Auburn, AL.*

JOURNAL REFEREEING

1. ACM SIGCOMM. IMC
2. BMC Bioinformatics
3. Bulletin of the Korea Mathematical Society
4. Communications in Statistics - Simulation and Computation
5. Computational Statistics & Data Analysis (4)
6. Computer Networks (3)
7. IEEE/ACM Transactions on Computational Biology and Bioinformatics
8. International Journal of Modelling and Simulation
9. Journal of Applied Statistics (2)
10. Journal of Computational and Graphical Statistics
11. Journal of Econometrics
12. Journal of Neuroscience Methods
13. Journal of Nonparametric Statistics (4)
14. Journal of Statistical Planning and Inference (2)
15. Journal of the American Statistical Association
16. Journal of the Korean Statistical Society
17. NeuroImage
18. Performance Evaluation
19. Statistica Sinica
20. Statistical Analysis and Data Mining
21. Statistical Science

22. Statistics & Probability Letters (2)
23. The American Statistician (2)
24. The Annals of Applied Statistics (2)
25. The Canadian Journal of Statistics (2)
26. The Korean Communication in Statistics
27. The Korean Journal of Applied Statistics (3)
28. The 17th IEEE International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems

REVIEWS

1. Journal: Mathematical Reviews (3)
2. Book: Springer

DISSERTATION DIRECTION of GRADUATE STUDENTS

- Current Lina Liao, Ph.D. student in Statistics, University of Georgia.
- Current Jinae Lee, Ph.D. student in Statistics, University of Georgia.
- Current Mitch Muhlheim, Master's student in Statistics, University of Georgia.
- AUG 2011 Andrew Hoss, Master's in Statistics, University of Georgia.
- AUG 2011 Jongmin Ra, Master's in Statistics, University of Georgia.
(Co-adviser: Dr. Woncheol Jang)
- MAY 2011 Muliang Peng, Master's in Statistics, University of Georgia.
(Co-adviser: Dr. Jeongyoun Ahn)
- DEC 2009 Amy Vaughan, Ph.D. in Statistics, University of Georgia.
- MAY 2008 Ayanna Byrd, Master's in Statistics, University of Georgia.
- MAY 2007 Yin Xiong, Master's in Statistics, University of Georgia.