

Gareth James

Education

- 1994 - 1998 : Ph.D. (Statistics), Department of Statistics, Stanford University.
Advisor : Trevor Hastie
- 1990 - 1993 : Bachelor of Science and Bachelor of Commerce, University of Auckland, New Zealand. Majored in Statistics and Finance.

Employment History

- 2009 - Present : Professor, Marshall School of Business, University of Southern California.
- 2005 - 2009 : Associate Professor, Marshall School of Business, University of Southern California.
- 1998 - 2005 : Assistant Professor, Marshall School of Business, University of Southern California.
- 1994 - 1998 : Teaching and Research Assistant, Stanford University.

Recent Awards

- **Dean's Award for Research Excellence** (2011). Awarded to the top 4 out of 120 research faculty at the Marshall School of Business.
- **Golden Apple Award for MBA core courses** (2007). Awarded to the top professor among all Marshall full time MBA first year classes.
- **Golden Apple Award for MBA elective courses** (2006). Awarded to the top professor among all Marshall MBA elective courses as voted by the students.
- **Evan C. Thompson Faculty Teaching and Learning Innovation Award** (2006). Awarded to the top 4 out of 180 teaching faculty at the Marshall School of Business. First person to win both the Evan C. Thompson prize and the Dean's Award for Research Excellence.
- **Dean's Award for Research Excellence** (2005). Awarded to the top 4 out of 120 research faculty at the Marshall School of Business.
- **Stanford University Department of Statistics Teaching Assistant Award** (1998).

- **ASA Student Paper Competition** (1997).
- Neural Information Processing Systems (NIPS) **Travel Award** (1997).
- Nominated for Stanford's **Centennial Teaching Assistant Award** for excellence in Course Assisting (1997).
- Awarded **Fulbright Scholarship** to study in the United States (1994).

Editorships

Associate Editor for Journal of the American Statistical Association : January 2008 -
Associate Editor for Statistical Sinica : October 2008 -

Refereed Journal Publications

Copies of all papers can be downloaded at www-rcf.usc.edu/~gareth/research.

- Radchenko, P. and James, G. (2011) "Forward-Lasso Adaptive SHrinkage," *Annals of Applied Statistics* **5**, 427-448.
- Radchenko, P. and James, G. (2010) "Variable selection using Adaptive Non-linear Interaction Structures in High dimensions," *Journal of the American Statistical Association* **105**, 1541-1553.
- Guo, J., James, G., Levina, L., Michailidis, G. and Zhu, J. (2010) "Principal Component Analysis with Sparse Fused Loadings," *Journal of Computational and Graphical Statistics* **19**, 930-946.
- Tian, T., Wilcox, R. and James, G. (2010) "Data Reduction in Classification: A Simulated Annealing Based Projection Method," *Statistical Analysis and Data Mining* **3**, 319-331.
- James, G., Sabatti, C., Zhou, N. and Zhu, J. (2010) "Sparse Regulatory Networks," *Annals of Applied Statistics* **4**, 663-686.
- Tian, T., James, G. and Wilcox, R. (2010) "Multivariate Adaptive Stochastic Search Method for Dimensionality Reduction in Classification," *Annals of Applied Statistics* **4**, 339-364.
- Xu, M., Li, W., James, G., Mehan, M. and Zhou, X. J. (2009) "Automated Multi-dimensional Phenotypic Profiling Using Large Public Microarray Repositories," *PNAS* **106**, 12323-12328.

- James, G., Wang, J. and Zhu, J. (2009) “Functional Linear Regression That’s Interpretable,” *Annals of Statistics* **37**, 2083-2108.
- James, G. and Radchenko, P. (2009) “A Generalized Dantzig Selector with Shrinkage Tuning,” *Biometrika* **96**, 323-337.
- Sodd, A., James, G. and Tellis, G. (2009) “Functional Regression: A New Model and Approach for Predicting Market Penetration of New Products,” *Marketing Science* **28**, 36-51.
- James, G., Radchenko, P. and Lv, J. (2009) “DASSO: Comparing the Dantzig Selector and LASSO,” *Journal of the Royal Statistical Society, Series B* **71**, 127-142.
- Radchenko, P. and James, G. (2008) “Variable Inclusion and Shrinkage Algorithms,” *Journal of the American Statistical Association* **103**, 1304-1315.
- James, G. (2007) “Curve Alignment by Moments,” *Annals of Applied Statistics* **1**, 480-501.
- James, G., Sugar, S., Desai, R. and Rosenheck, R. (2006) “A Comparison of Outcomes Among Patients with Schizophrenia in Two Mental Health Systems: A Health State Approach,” *Schizophrenia Research* **86**, 309-320.
- Sabatti, C. and James, G. (2006) “Bayesian Sparse Hidden Components Analysis for Transcription Regulation Networks,” *Bioinformatics* **22**, 737-744.
- James, G. and Sood, A. (2006) “Performing Hypothesis Tests on the Shape of Functional Data,” *Computational Statistics and Data Analysis* **50**, 1774-1792.
- Scott, S., James, G. and Sugar, C. (2005) “Using Hidden Markov Health State Models to Analyze Data from Clinical Trials,” *Journal of the American Statistical Association* **100**, 359-369.
- James, G. and Silverman, B. (2005) “Functional Adaptive Model Estimation,” *Journal of the American Statistical Association* **100**, 565-576.
- Sugar, C., James, G., Lenert, L. and Rosenheck, R. (2004) “Discrete State Analysis for Interpretation of Data from Clinical Trials,” *Medical Care* **42**, 183-196.
- Sugar, C. and James, G. (2003) “Finding the Number of Clusters in a Data Set : An Information Theoretic Approach,” *Journal of the American Statistical Association* **98**, 750-763.
- James, G. and Sugar, C. (2003) “Clustering for Sparsely Sampled Functional Data,” *Journal of the American Statistical Association* **98**, 397-408.

- James, G. (2003), “Variance and Bias for General Loss Functions,” *Machine Learning* **51**, 115-135.
- James, G. (2002) “Generalized Linear Models with Functional Predictor Variables,” *Journal of the Royal Statistical Society, Series B* **64**, 411-432.
- James, G., and Hastie, T. (2001), “Functional Linear Discriminant Analysis for Irregularly Sampled Curves,” *Journal of the Royal Statistical Society, Series B* **63**, 533-550.
- James, G., Hastie, T. and Sugar, C. (2000), “Principal Component Models for Sparse Functional Data,” *Biometrika* **87**, 587-602.
- James, G., and Hastie, T. (1998), “The Error Coding Method and PICTs,” *Journal of Computational and Graphical Statistics* **7**, 377-387. This paper was a winner of the 1997 ASA Student Paper competition.

Discussions

- James, G., and Radchenko, P. (2008) Discussion of “Sure Independence Screening for Ultrahigh Dimensional Feature Space” by Fan and Lv *Journal of the Royal Statistical Society, Series B* **70**, 895-896.

Other Publications

- James, G., and Sood, A. (2005), “When Will This Technology Improve? - Hypothesis Tests On The Shape Of Functional Data” *ECRM 2005: The 4th European Conference on Research Methodology for Business and Management Studies*.
- James, G., and Hastie, T. (1998), “The Error Coding and Substitution PaCTs,” *Advances in Neural Information Processing Systems* **10**, 542-548.
- James, G. (2010) “Sparseness and Functional Data Analysis”. Book chapter in *Oxford Handbook on Statistics and Functional Data Analysis* (Editors: F. Ferraty and Y. Romain).

Papers Under Review or In Revision

- Fan, Y. and James, G. (2011) “Functional Additive Regression”.
- Jank, W., James, G. and Foutz, N. (2011) “Functional Forecasting of Demand Decay Rates using Online Virtual Stock Markets”.
- James, G. (2010) “Moments Based Functional Synchronization”.

- Sood, A., James, G., Tellis, G. and Zhu, J. (2011) “Patterns and Predictions in Technology Evolution: Testing SAW Versus Moore, Kryder, and Gompertz”.
- Tian, T. and James, G. (2011) “Interpretable Dimension Reduction for Classification with Functional Data”.

Teaching Experience

- IOM 530 Applied Modern Statistical Learning Methods, MBA Program, Marshall School of Business (2006-2008).
- GSBA 524 Managerial Statistics and Decision Making, MBA Program, Marshall School of Business (2000-2006, 2009-2010).
- GSBA 603 Foundations of Statistical Inference, PhD Program, Marshall School of Business (1998 - 2001, 2003 - 2004, 2008).
- BUAD 309 Business Decisions Under Uncertainty, Undergraduate Honors Program, Marshall School of Business (1998 - 1999).
- Stat 203 Introduction to Analysis of Variance and Design, Statistics Masters Program, Stanford University (1997).

Teaching Evaluations

Class	Number of Sections	Instructor Eval	Course Eval	Avg Number Students
BUAD 309	4	4.52	4.02	23.0
GSBA 524	16	4.49	4.20	70.9
IOM 530	4	4.88	4.47	44.3
GSBA 603	7	4.86	4.50	11.6
Overall	31	4.63	4.28	47.9

All evaluations are on a 5 point scale.

Grants

- Co-PI on NSF Grant DMS-0906784: “Regularization Methods in High Dimensions with Applications to Functional Data Analysis, Mixed Effects Models and Classification” (July 2009 - July 2012). Total Grant approximately \$200,000.
- PI on NSF Grant DMS-0705312: “Generalized Variable Selection with Applications to Functional Data Analysis and Other Problems” (July 2007 - July 2010). Total Grant (including Co-PI Ji Zhu) approximately \$180,000.

The Marshall School of Business provides internal grants for summer funding based on a competitive peer reviewed application process. Between 2001 and 2006 I had the following grants funded, each for two months summer salary. Since then I have not been required to submit grant applications.

- **2001** : Clustering Sparse Functional Data
- **2002** : Using Cluster Analysis To Assess The Medical and Financial Impacts of Treatments In Complex Diseases
- **2003** : Functional Adaptive Model Estimation
- **2004** : Curve Synchronization with Applications to Functional Analysis
- **2005** : A Bayesian Approach to Estimation of Network Topologies
- **2006** : Generalized Model Selection

Recent Invited Talks

- University of Texas, Austin, April 2011.
- Stanford University, Palo Alto, California, January 2011.
- University of Florida Winter Workshop, Gainesville, January 2011.
- University of California, San Diego, November 2010.
- University of Wisconsin, Madison, November 2010.
- London School of Economics, London, October 2010.
- International Conference on Statistics and Society, Beijing, July 2010.
- ICSA Applied Statistics Symposium, Indianapolis, June 2010.
- University of California-Los Angeles, April 2010.
- ENAR meetings, New Orleans, Louisiana, March 2010.
- JSM meetings, Washington D.C., August 2009.
- Sixth St. Petersburg Workshop on Simulation, Russia, June 2009.
- ICSA Applied Statistics Symposium, San Francisco, June 2009.
- University of California-Los Angeles, May 2009.

- Booth School of Business, University of Chicago, May 2009.
- ENAR meetings, San Antonio, Texas, March 2009.
- Statistics Department, Stanford University, Palo Alto, January 2009.
- Radcliffe Institute of Advanced Studies at Harvard, Boston, October 2008.
- INFORMS Annual Conference, Washington DC., October 2008.
- Joint Statistical Meetings, Denver, August 2008.
- 1st International Workshop on Functional and Operatorial Statistics, Toulouse, France, June 2008.
- University of Michigan, Ann Arbor, March 2008.
- University of Auckland, New Zealand, February 2008.
- Mathematics Department, University of Southern California, November 2007.
- University of Maryland, Maryland, October 2007.
- ISBIS Meetings, Azores, Portugal, August 2007.
- Joint Statistical Meetings, Salt Lake City, July 2007.
- University of California-Los Angeles, April 2007.
- ORFE, Princeton University, April 2007.
- Wharton School of Business, University of Pennsylvania, March 2007.
- JSM meetings, Seattle, August 2006.
- IMS meetings, Rio de Janeiro, Brazil, August 2006.
- Statistics at the Frontiers of Science, Banff, Canada, June 2006.
- Wharton School of Business, University of Pennsylvania, October 2005.
- University of California-Riverside, April 2005.
- University of Chicago, Illinois, April 2005.
- University of Wisconsin, Madison, Wisconsin, February 2005.
- Carnegie Mellon, Pittsburgh, Pennsylvania, January 2005.

- Yale, New Haven, Connecticut, December 2004.
- University of California-Los Angeles, December 2004.
- WNAR meetings, University of New Mexico, New Mexico, June 2004.
- University of California-Riverside, May 2004.
- ENAR meetings, Pittsburgh, Pennsylvania, March 2004.
- University of California-Irvine, January 2004.
- University of Washington, January 2004.
- University of California-Los Angeles, January 2004.
- University of California-San Diego, July 2003.
- WNAR meetings, Golden, Colorado, June 2003.
- IMS Meetings, Banff, Canada, July 2002.
- Model Based Clustering Workshop, University of Washington, July 2002.
- Conference on Non-parametric Statistics, Crete, July 2002.
- WNAR meetings, University of California-Los Angeles, June 2002.
- University of California-Los Angeles, February 2002.
- University of California-Santa Barbara, February 2002.
- Stanford University, January 2002.
- University of California-Irvine, January 2002.
- University of California-Los Angeles, May 2001.
- University of Auckland, New Zealand, May 2000.
- RAND, Santa Monica, April 2000.
- Stanford University, October 1999.
- Joint Statistical Meetings, Baltimore, August 1999. Invited talk.
- Mathematics Department, University of Southern California, April 1999.
- Stanford University, June 1998.

- University of Minnesota - Minneapolis-Saint Paul, February 1998.
- University of California - Santa Barbara, February 1998.
- Marshall School of Business, University of Southern California, January 1998.
- Wharton School of Business, University of Pennsylvania, January 1998.
- Johns Hopkins, January 1998.
- North Carolina State University, January 1998.
- University of Washington, January 1998.
- Joint Statistical Meetings, Anaheim, August 1997. Presentation in special session for winners of ASA Student Paper Competition.

Students

The Marshall School of Business is starting a PhD program in Statistics in the Fall of 2010 so, to date, I have only had limited opportunities to act as the principal advisor. However, I have served on the dissertation committees for numerous students both inside and outside the business school.

- Nilesh Saraf, Information and Operations Management (2002)
- Yu-shuo Chang, Environmental Engineering (2002)
- Wayne Johansson, Information and Operations Management (2003)
- Ixchel Faniel, Information and Operations Management (2004)
- Jiangfan Zhong, Information and Operations Management (2005)
- Ashish Sood, Marketing (2005)
- Hal Daume III, Computer Science (2006)
- Shaosong Ou, Information and Operations Management (2006)
- Andrew Yoon, Environmental Engineering (2006)
- Reza Alaghband, Molecular and Computational Biology (2007)
- Alexander Fraser, Computer Science (2007)
- Deepa Chandrasekaran, Marketing (2007)

- Babak Pazokifard, Environmental Engineering (2007)
- Shabnam Dilmaghani, Environmental Engineering (2007)
- Ran Duchin, Finance and Business Economics (2008)
- Salvatore Miglietta, Finance and Business Economics (2008)
- John McCrow, Molecular and Computational Biology (2008)
- Jerry Huang, Molecular and Computational Biology (2008)
- Siva Tian (Co-Advisor), Quantitative Psychology (2009)
- Min Xu, Molecular and Computational Biology (2009)
- Dhruv Grover, Molecular and Computational Biology (2009)
- Chien-Cheng Pan, Environmental Engineering (2009)
- Abhimanyu Das, Computer Science (2009)
- Tan Hung Marie Ng, Quantitative Psychology (2009)
- Huanying Ge, Molecular and Computational Biology (2009)
- Juan Nunez-Iglesias, Molecular and Computational Biology (2009)
- Seshadri Tirunillai, Marketing (2011)
- Joo He Oh, IOM (2011)
- Yemin Shi (Masters Advisor), Computational Biology (2011)
- Tim Triche, Preventive Medicine (2011)
- Xinghao Qiao, IOM (2014)

External Service Activities

- Session chair at the 2001 Interface meetings.
- Session organizer and chair at the 2004 WNAR meetings.
- Session chair at the 2006 IMS meetings.
- Session organizer at the 2008 JSM meetings.
- Session organizer at the 2008 and 2009 WNAR/IMS meetings.

- JSM program chair for Statistical Learning and Data Mining Section, 2011.
- NSF Grant review panel, 2011.
- Associate Editor for Journal of the American Statistical Association - Theory and Methods, 2008-present.
- Associate Editor for Statistica Scinica, 2008-present.
- Reviewer for Journal of the American Statistical Association - Theory and Methods, Journal of the American Statistical Association - Case Studies and Applications, Journal of the Royal Statistical Society, Biometrika, Annals of Statistics, Biometrics, Machine Learning, Journal of Computational and Graphical Statistics, Journal of Computational Statistics and Data Analysis, Journal of Non-parametric Statistics, IEEE Transactions on Pattern Analysis and Machine Intelligence, Biometrical Journal, Journal of Statistical Planning and Inference, and the Scandinavian Journal of Statistics, Marketing Science.

Memberships

Member of

- American Statistical Association
- Institute of Mathematical Statistics (Life Member)
- New Zealand Statistical Association