

**HERNANDO C. OMBAO, PH.D.**  
Professor

Department of Statistics  
University of California  
Bren Hall 2206  
Irvine, CA 9267

Phone 949-824-5679  
Fax  
Email hombao@uci.edu

---

**Research Interests**

**Methodological:** Time Series Analysis, Spatio-Temporal Models, Statistical Signal and Image Processing, Graphical Models

**Collaborative:** Applications to Finance, Psychology, Neuroscience, Neurology and Psychiatry

---

**Service to the Profession**

Associate Editor

Journal of the American Statistical Association  
Theory and Methods Section (2005 - current)

Journal of the Royal Statistical Society Series B (2011 - current)

Metron (2013 – current)

Statistical Analysis and Data Mining Journal (2009 - 2012)

Program Chair

ENAR Conference  
March 2014, Baltimore, MD

Co-Guest Editor

Journal of Time Series Analysis (2012)  
Special Issue on Biological Time Series

Publications Liaison  
Officer

Section on Statistical Learning and Data Mining  
American Statistical Association (2009-2011)

Founding Member

Section on Imaging, American Statistical Association

Regional Advisory  
Board Member

International Biometrics Society (2010-2011)  
ENAR

Chair

Student Paper Competition, Statistical Learning and Data Mining Section  
of the ASA (2010, 2011, 2012, 2014)

PI and Co-Organizer

Workshop on “Developing Novel Statistical Methods for NeuroImaging”  
24-26 July 2012, San Diego, CA  
Funded by the NSF DMS

Regional Committee  
Representative

Western North Atlantic Region, International Biometrics Society  
2013-2015

---

## Faculty Positions

UC-Irvine July 2013 - current Jan 2012 – July 2013	Department of Statistics Professor (Tenured) Associate Professor (Tenured)
Brown University Aug 2007 – Jan 2012	Biostatistics Section Associate Professor (Tenured) Co-Director, Graduate Program in Biostatistics Member, Exec Committee, Magnetic Resonance Imaging Center
University of Illinois at Urbana-Champaign	Department of Statistics Associate Professor (Tenured), 2005-2007 Assistant Professor, 2002-2005
University of Pittsburgh 1999-2002	Department of Statistics and Department of Psychiatry (joint position) Assistant Professor
University of the Philippines Diliman	Department of Mathematics Instructor, 1989-1991

---

## Education

Ph.D. in Biostatistics	University of Michigan, Ann Arbor (1999)
M. S. in Statistics	University of California, Davis (1995)
B. S. in Mathematics	University of the Philippines, Diliman (1989)
H.S. diploma	Philippine Science High School (1985)

---

## Honors

Keynote Speaker	Workshop on ``Applied Mathematics in Neuroscience'' (2004) Centro de Investigaciones en Matematicas (CIMAT), Mexico
Visiting Scholar	Institut de Mathematique Pure et Appliqué (2006) Universite catholique de Louvain, Belgium
Incomplete List of Teachers Ranked Excellent	University of Illinois at Urbana-Champaign (2006, 2007)
Visiting Scholar	Universidad de Valladolid, Spain (2007)
Visiting Scholar	Centro de Investigaciones en Matematicas, Mexico (2011)
Visiting Scholar	University of Warwick, UK (2011)

---

## Active Grants

Principal Investigator Applied Probability and Time Series Modeling  
NSF Division Mathematical Sciences 06/11 – 05/15

## Completed Grants

Principal Investigator Models and Methods for Non-stationary Behavioral Time Series  
NSF Division of Social and Economic Sciences 09/11 – 07/14

Principal Investigator Developing Novel Statistical Methods in NeuroImaging (workshop)  
NSF Division of Mathematical Sciences 05/12-08/12

Principal Investigator Collaborative Research: Spectral and Connectivity Analysis of Non-Stationary Spatio-Temporal Data  
NSF DMS 0806106 09/08 – 08/10

Co-Principal Investigator Motor Intention  
NSF BCS (PI: J. Sanes) 09/09 – 08/12

Principal Investigator (sub, Butler Hospital) Underlying behavioral effects and mechanisms of DBS in OCD  
NIMH (PI: Haber) 09/09 - 08/14

Principal Investigator (sub, Bradley Hospital) Bio-behavioral Markers of Bipolar Conversion  
NIMH (PI: Dickstein) 07/09 – 06/14

Co-Investigator Impact of Flu and Flu vaccine on NH Resident Morbidity  
DHHS (PI: Mor) 0/09 – 09/12

Co-Investigator Classification Tree Analysis to Enhance Targeting for Cancer  
Screening Programs  
NIH (PI: Rakowski) 12/09 – 11/11

Co-Investigator Alcohol and HIV: Biobehavioral Interactions and Intervention  
NIAAA (PI: Monti) 01/11 – 12/11

Principal Investigator Collaborative Research: Time Series in Experimental Designs  
NSF DMS 0753787 07/06 – 06/08

Principal Investigator Localized Cross Spectral Analysis and Pattern Recognition in Non-Stationary Signals  
NSF DMS 0405243 07/04 – 07/08

Co-Principal Investigator Frequency Domain Methods in Time Series Analysis  
NSF DMS 0102511 (PI: Stoffer, Pittsburgh) 07/01 – 06/04

Principal Investigator (sub, Univ Penn) Automatic Statistical Time-Frequency Analysis  
NIMH RO1 62298 (PI: Guo, U Penn) 02/00 – 01/04

---

## Books

Ombao H, Lindquist M, Thompson W and Aston J, Co-Editors. Handbook of Statistical Methods for NeuroImaging. CRC Press. Expected 2015.

Motta G and Ombao H. Multivariate Time Series Methods With Applications to Biological Data. CRC Press. Expected 2015.

---

## Publications on Statistical Theory and Methodology

(\*PhD Student as first author)

- (1.) Stoffer, D. and Ombao, H. (2000). Localized Spectral Envelope, *Resenhas*, 4, 363-381.
- (2.) Ombao, H., Raz, J., von Sachs, R. and Malow, B. (2001). Automatic Statistical Analysis of Bivariate Non-Stationary Time Series, *J Amer Stat Assoc*, 96, 543-560.
- (3.) Ombao, H., Raz, J., Strawderman, R. and von Sachs, R. (2001). A simple GCV method of span selection for periodogram smoothing, *Biometrika*, 88, 1186-1192.
- (4.) Ombao, H., Raz, J., von Sachs, R. and Guo, W. (2002). The SLEX Model of Non-Stationary Random Process, *Annals Inst Stat Math*, 54, 171-200.
- (5.) Stoffer, D., Ombao, H. and Tyler, D. (2002). Evolutionary Spectral Envelope: An Approach Using the Tree-Based Adaptive Segmentation, *Annals Inst Stat Math*, 54, 201-223.
- (6.) Guo, W., Dai, M., Ombao, H. and von Sachs (2003). Smoothing Spline ANOVA For Time-Dependent Spectral Analysis, *J Amer Stat Assoc*, 98, 643-652.
- (7.) \*Pasia, J., Hermosilla, A. and Ombao, H. (2004). Genetic Algorithms: Useful Statistical Tools, *J Stat Comp Simu*, 75, 237-251.
- (8.) Ombao, H., Heo, J., Stoffer, D. (2004). Statistical Analysis of Seismic Signals: An Almost Real Time Approach, *Time Series Analysis and Applications to Geophysical Systems* (eds. D. Brillinger E. Robinson and F. Schoenberg), New York: Springer Verlag, IMA Series, 139, 53-72.
- (9.) \*Huang, H., Ombao, H. and Stoffer D. (2004). Classification and Discrimination of Non-Stationary Time Series Using the SLEX Model, *J Amer Stat Assoc*, 99, 763-774.
- (10.) \*Ho, M., Ombao, H. and Shumway, R. (2005). Modelling Brain Dynamics: A State-Space Approach, *Statistica Sinica*, 15, 407-425.
- (11.) \*Gamalo M, Ombao H and Jennings R. (2005). Comparing Extent of Activation: A Robust Permutation Approach. *NeuroImage*, 24(3): 715-722.
- (12.) Ombao, H., von Sachs, R. and Guo, W. (2005). SLEX Analysis of Multivariate Non-Stationary Time Series, *J Amer Stat Assoc*, 100, 519-531.
- (13.) Bunea, F., Ombao, H. and Auguste, A. (2006). Minimax Adaptive Spectral Estimation from an Ensemble of Signals, *IEEE Trans Signal Proc*, 54, 2865-2873.

- (14.) \*Ho, M., Shumway, R. and Ombao, H. (2006). State-Space Models for Longitudinal Data With Applications in the Biological and Social Sciences. In Walls and Shafer (eds). *Models for Intensive Longitudinal Data*. New York, NY: Oxford Univ.Press.
- (15.) \*Shinkareva, S., Ombao, H. and Sutton B. (2006). A Data-Driven Approach to Classification and Discrimination of fMRI Data, *NeuroImage*, 33, 63-71.
- (16.) Ombao, H. and Ho, M. (2006). Time-dependent frequency domain principal components analysis of multi-channel non-stationary signals, *Comp Stat and Data Anal*, 50(9), 2339-2360.
- (17.) \*Choi, H., Ombao, H. and Ray, B. (2007). Sequential Change-point Detection Method in Time Series, *Technometrics*, 50(1), 40-52.
- (18.) Ombao, H. and Van Bellegem (2008). Coherence Analysis: A Linear Filtering Point Of View, *IEEE Trans on Signal Proc*, 56(6), 2259-2266.
- (19.) \*Ho, M, Ombao, H, Edgar, C and Miller, G. (2008). Time-Frequency Discriminant Analysis of MEG Signals, *NeuroImage*, 40(1), 174-186.
- (20.) Ombao, H, Shao, X., Rykhlevskaia, E, Fabiani, M and Gratton, G. (2008). Spatio-Spectral Analysis of Brain Signals, *Statistica Sinica*, 18, 1465-1482.
- (21.) Shitan, M., Ombao, H. and Ling, K-W. (2009). Spatial Modeling of Peak Frequencies of Brain Signals. *Malaysian J Math Sci*, 3(1), 13-26.
- (22.) Tadjuidje, J, Ombao, H. and Davis, R. (2009). A Class of Switching Regimes Autoregressive Driven Processes with Exogenous Components. *J Time Series Anal*, 30, 505 – 533
- (23.) Fryzlewicz, P and Ombao, H. (2009). Consistent Classification of Non-Stationary Signals Using Stochastic Wavelet Representations, *J Amer Stat Assoc*, 104, 299-312.
- (24.) \*Gao, B., Ombao, H. and Ho, R. (2010). Cluster Analysis for Non-Stationary Time Series. *In Statistical Methods for Modeling Human Dynamics: An Inter-Disciplinary Dialogue* (pp. 85-122), Taylor and Francis.
- (25.) Ombao, H. and Prado, R. (2010). A Closer Look at the Two Approaches for Clustering and Classification of Non-Stationary Time Series. *In Statistical Methods for Modeling Human Dynamics: An Inter-Disciplinary Dialogue* (pp ), Taylor and Francis.
- (26.) \*Bohm, H., Ombao, H., von Sachs, R. and Sanes, J.N. (2010). Discrimination and Classification of Multivariate Non-Stationary Signals: The SLEX-Shrinkage Method. Invited for the *Special Issue on Time Series (In Honor of Emmanuel Parzen)*, *Journal of Statistical Planning and Inference*, (140), 3754-3763.
- (27.) \*Freyermuth, J-M., Ombao, H. and von Sachs, R. (2010). Spectral Estimation from Replicated Time Series: An Approach Using the Tree-Structured Wavelets Mixed Effects Model. *Journal of the American Statistical Association*, 105, 634-646.
- (28.) \*Fiecas, M., Ombao, H., Linkletter, C., Thompson, W. and Sanes, J.N. (2010). Functional Connectivity: Shrinkage Estimation and Randomization Test. *NeuroImage*, (40), 3005-3014.
- (29.) \*Fiecas, M. and Ombao, H. (2011). The Generalized Shrinkage Estimator for the Analysis of Functional Connectivity of Brain Signals. *Annals of Applied Statistics*, 5, 1102-1125.  
RECIPIENT OF THE 2010 BEST STUDENT PAPER AWARD, NEW ENGLAND STATISTICS SYMPOSIUM
- (30.) Bunea F, She Y Ombao H, Gongvatana W, Devlin K and Cohen R. (2011). Penalized Least Squares Regression Methods and Applications to Neuroimaging. *NeuroImage*, (55), 1519-1527.

- (31.) Verducci J and Ombao H. (2011). Introduction to the special issue on best papers from the SLDM competition. *Statistical Analysis and Data Mining*, 4: 565-566.
- (32.) \*Gorrostieta C, Ombao H, Bedard P and Sanes J.N. (2012). Investigating Stimulus-Induced Changes in Connectivity Using Mixed Effects Vector Autoregressive Models. *NeuroImage*, 59, 3347-3355.
- (33.) \*Gorrostieta C, Ombao H, Rrado R, Patel S and Eskandar E. (2012). Exploring Dependence Between Brain Signals in a Monkey During Learning. *Journal of Time Series Analysis*, 33(5), 771-778.
- (34.) Motta, G. and Ombao, H. (2012). Evolutionary Factor Analysis of Replicated Time Series. *Biometrics*, 68, 825-836.
- (35.) Ombao H. (2012). Discussion: Time–Threshold Maps: Using information from wavelet reconstructions with all threshold values simultaneously. *Journal of the Korean Statistical Society*, 41, 171-172.
- (36.) Stoffer D and Ombao H. (2012). Editorial: Special Issue on Time Series Analysis in the Biological Sciences. *Journal of Time Series Analysis*, 33(5), 701-703.
- (37.) Ombao H. (2012). Time Series Analysis of multivariate non-stationary time series using the localised Fourier Library. Handbook of Statistics: Time Series, Elsevier Science.
- (38.) \*Kang H, Ombao H, Linkletter C, Long N and Badre D. (2012). Spatio-Spectral Mixed Effects Model for Functional Magnetic Resonance Imaging Data. *J Amer Stat Assoc*, 107, 568-577.  
H. KANG RECIPIENT OF THE 2011 JOHN VAN RYZIN AWARD FOR BEST PAPER FOR ENAR
- (39.) Fiecas M, Ombao H, van Lunen D, Baumgartner R, Coimbra A and Feng D (2013). Quantifying Temporal Correlations: A Test-Retest Evaluation of Functional Connectivity in Resting-State fMRI. *NeuroImage*, 65, 231-241.
- (39.) Olhede S and Ombao H. (2013). Covariance of Replicated Modulated Cyclical Time Series. *IEEE Transactions on Signal Processing*, 61, 1944-1957.
- (40.) \*Koestler D, Ombao H and Bender J. (2013). Ensemble-based methods for forecasting census in hospital units. *BMC Medical Research Methodology*, 13:67, 1-12.  
D. KOESTLER RECIPIENT OF THE 2011 ENAR STUDENT PAPER AWARD.
- (41.) Gorrostieta C, Fiecas M, Ombao H, Burke E and Cramer S. (2013). Hierarchical Vector Autoregressive Models and Their Applications to Multi-subject Effective Connectivity. *Frontiers in Computational Neuroscience*, 7: 159, 1-11.
- (42.) Shababa B, Zhou B, Lan S, Ombao H, Moorman D and Behseta S. (2014). A Semiparametric Bayesian Model for Detecting Synchrony Among Multiple Neurons. *Neural Computation*, accepted.
- (43.) \*Park, T, Eckley I and Ombao H. (2014). Estimating the time-evolving partial coherence between signals via multivariate locally stationary wavelet processes. *IEEE Transactions on Signal Processing*, 62, 5240-5250.
- (44.) Kirch C, \*Muhsal B and Ombao H. (2014). Detection of Changes in Multivariate Time Series With Application to EEG data. *Journal of the American Statistical Association*, accepted for publication.
-

---

**Submitted or Under Revision**  
(\*PhD Student)

- (1.) Kang H, Blume J, Ombao H and Badre D. (2014). Simultaneous Control of Error Rates in fMRI Data Analysis. *NeuroImage*, Under revision.
- (2.) \*Yu Z, Ombao H, Prado R, Burke E and Cramer S. (2014). A Bayesian Model for Activation and Connectivity in Task-related fMRI Data. Under revision.
- (3.) \*Wang Y, Ombao H and Chung M. (2014). Persistence Landscape with Application to Epileptic Seizure Encephalogram Data. Under revision.  
THIS PAPER WON AN AWARD IN THE ENAR 2014 STUDENT PAPER COMPETITION.
- (4.) \*Sun Z and Ombao H. (2014). Short-Term Traffic Prediction Using Mixed Autoregressive Models. Under revision.
- (5.) Fiecas M and Ombao H. (2014). Modeling the Evolution of Dynamic Brain Processes During an Associative Learning Experiment. Under revision.
- (6.) \*Zhou B, Moorman D, Behseta S, Ombao H and Shahbaba B. (2014). A Dynamic Bayesian Model for Characterizing Cross Neuronal Interactions During Decision Making. Under revision.
- (8.) \*Yu Z, Prado R, Burke E, Cramer S and Ombao H. (2014). A Hierarchical Bayesian Model for Studying the Impact of Stroke on Brain Motor Function. Submitted.
- (9.) Gorrostieta C, Ombao H and von Sachs R. (2014). Time-Dependent Dual Frequency Coherence in Multivariate Non-Stationary Time Series. Under revision.
- (10.) \*Part T, Eckley I and Ombao H. Dynamic Classification Using Multivariate Locally Stationary Wavelets. (2014). Submitted.
- (11.) \*Sayal H, Aston J, Duncan E and Ombao H. An Introduction to Wavelet Benchmarking with Application to Seasonal Adjustment. (2014). Submitted.

---

**Publications on Interdisciplinary Research**

- (1.) Buysse D, Hall M, Begley A, Cherry C, Houck P, Land S, Ombao H, Kupfer D and Frank E. (2001). REM Sleep and Treatment Response in Depression: New Findings Using Power Spectral Analysis, *Psychiatry Research*, 103, 51-67.
- (2.) Fagiolini A, Frank E, Houck P, Mallinger A, Swartz H, Buysse D, Ombao H and Kupfer, D. (2002). Prevalence of Obesity and Weight Change During Treatment in patients with Bipolar I Disorder, *Journal of Clinical Psychiatry*, 63(6), 528-534.
- (3.) Cranstoun S, Ombao H, von Sachs R, Guo W and Litt B. (2002). Improved Time-Frequency Analysis of EEG Signals Using the Auto-SLEX Method, *IEEE Trans in Biomedical Engineering*, 49, 988-996.
- (4.) Nofzinger E, Buysse D, Miewald J, Meltzer C, Price J, Sembrat R, Ombao H, Reynolds C, Monk T

Hall M, Kupfer D and Moore R. (2002). Human Regional Cerebral Glucose Metabolism During NREM Sleep in Relation to Waking, *Brain*, 125,1101-1115.

- (5.) Moul D, Ombao H, Monk T, Chen Q and Buysse D. (2002). Masking effects of posture and sleep onset on core body temperature: a circadian rhythm of bedtime temperature drops, *Journal of Biological Rhythms*, 17, 447-462.
- (6.) Julius S, Valentini C, Krause L, Ombao H, Kaciroti N. and Weder A. (2002). A "gender blind" relationship of lean body mass and blood pressure in the Tecumseh study. *American Journal of Hypertension*, 15(3), 258-263.
- (7.) Raz J, Zheng H, Ombao H and Turetsky B. (2003). Statistical Test for fMRI Based on Experimental Randomization, *NeuroImage*, 19(2), 226-232..
- (8.) Germain A, Buysse D, Ombao H, Monk T, Kupfer D and Hall M. (2003). Psychophysiological Reactivity and Coping Style Influence the Effect of Acute Stress on REM During Sleep. *Journal of Psychosomatic Medicine*, 65, 857-864.
- (9.) Hall M, Vasko R, Buysse D, Ombao H, Chen Q, Cashmere D, Kupfer D and Thayer J. (2004). Acute Stress Affects Heart Rate Variability During Sleep. *Journal of Psychosomatic Medicine*, 66, 56-62.
- (10.) Buysse D, Nofzinger E, Germaine A, Meltzer C, Wood A, Ombao H, Kupfer D and Moore, R. (2004). Regional Brain Glucose Metabolism During Morning and Evening Wakefulness in Humans: Preliminary Findings. *SLEEP*, 27, 1245-1254.
- (11.) Politi MC, Clark MA, Ombao H, Légaré F. (2011). The Impact of Physicians' Reactions to Uncertainty on Patients' Decision Satisfaction. *Journal of Evaluation in Clinical Practice*, 17, 575-578.
- (12.) Dickstein DP, Gorrostieta C, Ombao H, Goldberg LD, Brazel AC, Gable CJ, Kelly AMC, Gee DG, Zuo X, Castellanos FX, Milham MP. (2010). Fronto-temporal spontaneous resting state functional connectivity in pediatric bipolar disorder. *Biological Psychiatry*, 68(9):839-46.
- (13.) Ito H, Matsuo K, Tanaka H, Koestler DC, Ombao H, Fulton J, Shibata A, Fujita M, Sugiyama and Mor V. (2011). Non-filter and filter cigarette consumption and the incidence of lung cancer type in Japan and the United States: Analysis of 30-year data from population-based cancer registries, *International Journal of Cancer*, 128, 175-1998.
- (14.) Politi MC, Clark MA, Ombao H, Dizon D and Elwyn G. (2011). Communicating uncertainty can lead to less decision satisfaction: A necessary cost of involving patients in shared decision making? *Health Expectations*, 14, 84-91.
- (15.) Cohen R, de la Monte S, Gongvatana A, Ombao H, Gonzalez B, Devlin K, Navia B and Tashima K. (2011). Plasma cytokine concentrations associated with HIV/hepatitis C coinfection are related to attention, executive and psychomotor functioning, *J Neuroimmunology*, 233, 204-210.
- (16.) Gongvatana A, Cohen R, Correia S, Devlin K, Miles J, Clark U, Westbrook M, Hana G, Kang H, Ombao H, Navia B, Laidlaw D and Tashima K. (2011). Clinical Contributors to Cerebral White Matter Integrity in HIV-infected Individuals. *Journal of Neurovirology*, 7, 477-486.
- (17.) Markova A, Risica P, Shaikh W, Kirtania U, Ombao H and Weinstock M. (2012). Gender in examination and counseling for melanoma in primary care. *Archives of Internal Medicine*, 6:26, 648-657.
- (18.) Zhu T, Cohen R, Harezlak J, Ombao H, Navia B and Schiffito G. (2012). Patterns of CNS injury in



HIV infection after partial immune reconstitution: A DTI tract-based spatial statistics study. *Human Brain Mapping*, 33, 1384-1392.

- (19.) Bender J, Koestler D, Ombao H, McCourt M, Alskinis B, Rubin L and Padbury J. (2013). Neonatal Intensive Care Unit: Predictive Models for Length of Stay. *The Journal of Perinatology*, 33, 147-153.
- (20.) Markova A, Weinstock M, Risica P, Kirtania U, Shaikh W, Ombao H, Chambers C, Kabongo M, Kallail J, Post D. (2013). Effect of a web-based curriculum on primary care practice: Basic Skin Cancer Triage trial. *Family Medicine*, accepted for publication.
- (21.) Gjelsvik A, Rogers M, Clark M, Ombao H and Rakowski W. (2013). Continuum of Mammography Use among US Women: Classification Tree Analysis. *American Journal of Health Behavior*, accepted for publication.

### Under Review

None.

---

### Invited Lectures and Talks

October 2015	Statistics Section, Imperial College, London UK
September 2015	German Statistical Meeting, Hamburg, Germany
August 2015	Joint Statistical Meetings, Seattle
June 2015	Human Brain Mapping Conference, Honolulu
June 2015	60 <sup>th</sup> ISI World Statistics Congress, Rio de Janeiro
May 2015	Center for Biomedical Engineering, Universiti Teknologi Malaysia
March 2015	ENAR Conference, Miami, FL
January 2015	Department of Biostatistics, UCLA
December 2014	Center for Biomedical Engineering, Universiti Teknologi Malaysia
October 2014	KAUST (King Abdhllah University of Science and Technology), Saudi Arabia
October 2014	Institute of Stochastics, Karlsruhe University, Germany
August 2014	Joint Statistical Meetings, Boston
July 2014	Indian Statistical Association Conference, Riverside, CA
July 2014	Institute of Mathematical Statistics Meeting, Taipei, Taiwan
June 2014	Department of Preventive Medicine, UC San Diego
May 2014	Department of Biostatistics, Univ Kansas Medical Center
April 2014	Workshop: Recent Advances and Trends in Time Series Analysis, BIRS, Banff, Canada
March 2014	Department of Biostatistics, Brown University
Feb 2014	KAUST (King Abdhllah University of Science and Technology), Saudi Arabia Newton Institute, Cambridge University, UK
Dec 2013	International Chinese Statistical Association Conference, Hong Kong Centro de Investigaciones en Matematicas, Guanajuato, Mexico
Nov 2013	American Mathematical Society Meeting, Riverside, CA
June 2013	Workshop on Imaging, SAMSI
April 2013	Department of Probability and Statistics, Univ California at Santa Barbara
March 2013	ENAR Conference, Orlando, FL
Feb 2013	Department of Mathematics and Statistics, Lancaster University, UK

Dec 2012	Institute of Statistics, Univ of the Philippines at Los Banos
Dec 2012	Institute of Biology, Univ of the Philippines at Los Banos
Dec 2012	National Institute of Health, Univ of the Philippines at Manila
Nov 2012	Department of Cognitive Sciences, UC Irvine
June 2012	Workshop on Statistical Learning and Data Mining, Ann Arbor MI
June 2012	International Chinese Statistical Association Conference, Boston MA (canceled)
June 2012	Universite catholique de Louvain, Belgium (canceled)
April 2012	Karlsruhe Institute of Technology, Germany
April 2012	Department of Mathematics and Statistics, San Diego State University
April 2012	Department of Applied Mathematics and Statistics, Univ California at Santa Cruz
Mar 2012	Department of Statistics, Univ California at Riverside
Mar 2012	ENAR Conference, Washington DC
Nov 2011	Department of Mathematics, Pomona College
Sep 2011	Department of Statistics, University of Virginia
Aug 2011	Joint Statistical Meetings, Miami
July 2011	Department of Statistics, University of Warwick, UK
July 2011	Department of Statistics, Lancaster University, UK
July 2011	Department of Mathematics, Bristol University
June 2011	International Chinese Statistical Association Conference, New York
April 2011	Department of Statistics, University College London, UK
Mar 2011	Invited Session, ENAR, Miami
Feb 2011	Division of Biostatistics, University of Minnesota
Feb 2011	Centro de Investigaciones en Matematicas
Feb 2011	Department of Biostatistics, Univ North Carolina
Jan 2011	Department of Statistics, Univ California at Irvine
Jan 2011	Department of Biostatistics, Emory University
Nov 2010	Department of Biostatistics, Harvard University
Sept 2010	Karlsruhe University, Germany
Aug 2010	Joint Statistical Meetings, Vancouver, CA
Apr 2010	Department of Mathematics, Amherst College
Mar 2010	Department of Biostatistics, Vanderbilt University
Mar 2010	Invited Session, ENAR, New Orleans
Feb 2010	Department of Statistics, Columbia University
Sept 2009	Department of Statistics, London School of Economics
Sept 2009	Joint Engineering-Statistics Workshop, Imperial College, London
Aug 2009	Joint Statistical Meetings, Washington DC
June 2009	Classification Society Conference, Washington Univ St Louis
April 2009	Dept of Statistics, Univ of Pittsburgh
April 2009	New England Statistics Symposium, Storrs, Connecticut
April 2009	Dept of Statistics, Univ Connecticut
Nov 2008	Dept of Statistics, Texas-AM University
Oct 2008	Dept of Maths and Stats, Univ of Massachussetts at Amherst
Oct 2008	Dept of Statistics, Columbia University, New York
Sep 2008	Dept of Biostatistics, University of Alabama-Birmingham
May 2008	Dept of Maths and Stats, Boston University
Feb 2008	Dept of Mats and Stats, University of Cyprus
Jan 2008	Intl Platinum Conference, Indian Stat Inst, Kolkata
Aug 2007	Invited Session, Joint Statistical Meetings (JSM), Salt Lake City
May 2007	Workshop on Quantitative Psychology, Notre Dame University
May 2007	Dept of Mathematical Sciences, Ball State University

April 2007	Dept of Statistics, Carnegie Mellon University
March 2007	Universidad de Valladolid, Spain
March 2007	Invited Session, ENAR, Atlanta
Oct 2006	Center for Statistical Sciences, Brown University
Sept 2006	Research Forum, Univ of Illinois School of Medicine
June 2006	Lectures on Time Series Methods, UCL, Belgium
June 2006	Graybill Conference: Multiscale Methods in Statistics, CSU
April 2006	Dept of Psychiatry, Indiana University
April 2006	Center for Cognitive Neuroscience, Univ of Illinois Chicago
March 2006	Statistics and Computer Science Interface Conference, Belgium
October 2005	Neuroscience Forum, Beckman Institute, UIUC
August 2005	Invited Session, Joint Statistical Meetings (JSM), Minneapolis
June 2005	Conference on Statistics and Management Sciences, Taiwan
May 2005	Graduate School of Statistics and Education Measurement, National Tai-chung Teachers College, Taiwan
April 2005	Dept of Statistics, Northwestern University
March 2005	Dept of Mathematics, Washington University at St. Louis
February 2005	School of Statistics, University of Minnesota
January 2005	Dept of Statistics, University of Florida
January 2005	Division of Biostatistics, University of Pennsylvania
December 2004	Dept of Electrical and Computer Engineering, Univ Illinois
December 2004	Dept of Statistics, The Ohio State University
November 2004	Invited Lecture Series: The SLEX Approach to Signal Processing Centro de Investigaciones en Matematicas (CIMAT) , Mexico
September 2004	Dept of Biostatistics, University of Iowa
June 2004	Recent Advances in Time Series Analysis, Cyprus
January 2004	Dept of Statistics, Northern Illinois University
December 2003	Dept of Psychology, University of Illinois
October 2003	Dept of Statistics, Purdue University
August 2003	Joint Statistical Meetings (JSM), San Francisco, CA
March 2003	Dept of Statistics, Case Western Reserve University
February 2003	Mathematical Sciences Group, IBM TJ Watson Research Center
November 2002	Dept of Statistics, University of Chicago
October 2002	Dept of Statistics, Purdue University
April 2002	Dept of Statistics, Colorado State University
April 2002	Dept of Statistics, University of Illinois
March 2002	Dept of Statistical Science, Cornell University
December 2001	Western Psychiatric Institute and Clinics, University of Pittsburgh
June 2001	Third Joint Japan-US Conference on Time Series Analysis, Kyoto
June 2001	Institute of Statistical Mathematics (ISM), Tokyo, Japan
November 2000	Western Psychiatric Institute and Clinics, University of Pittsburgh
September 2000	Dept of Statistics, Carnegie Mellon University, Pittsburgh
July 2000	Institut de statistique, Universite catholique de Louvain, Belgium
March 2000	Dept of Biostatistics, University of Pittsburgh
March 1999	Department of Statistics, University of Pittsburgh
February 1999	Department of Mathematics, University of New Mexico
January 1999	Center for Statistics, Brown University
October 1998	Department of Biostatistics, University of Pennsylvania

---

## Poster Presentations

June 2010	Human Brain Mapping, Barcelona Evolutionary Factor Analysis of EEGs
June 2009	Human Brain Mapping, San Francisco Graphical Models of Functional Connectivity
June 2009	Human Brain Mapping, San Francisco Likelihood Ratio Paradigm for Testing Activation
June 2004	Human Brain Mapping, New York Feedback Control Via Multivariate Autoregressive Processes

---

## Student Mentoring (As PhD Advisor)

### At the University of California-Irvine

(1.) Zhe Yu	Time Series Models in Designed Experiments	(Expected June 2015)
(2.) Yuxiao Wang		(Expected June 2016)
(3.) Duy Ngo		(Expected June 2018)

### At Brown University

(1.) Hakmook Kang	Spectral Approach for Spatio-Temporal Signals	(May 2011)
Current Position	Tenure-track Assistant Professor Department of Biostatistics, Vanderbilt University	
Awards	Travel Award, Bayesian Biostatistics Conf Houston TX, Jan 2011 Distinguished Paper Award, ENAR, Miami FL, Mar 2011 John Van Ryzin Award for Best Paper, ENAR, Miami FL, Mar 2011	
(2.) Mark Fiecas	Connectivity Methods for Brain Signals	(December 2011)
Current Position	Assistant Professor Department of Statistics, University of Warwick, UK	
Awards	Distinguished Paper Award, New England Statistics Symposium Cambridge MA, April 2010	
(3.) Cristina Gorrostieta	Generalized Coherence Analysis of Time Series	(May 2012)

### At the University of Illinois at Urbana-Champaign

(1.) Hyunyoung Choi	Online Methods and Intervention Models for Time Series Data (2005)	
Position	Senior Economist, Google Co-Advised with Jeff Douglas (UIUC) and Bonnie Ray (IBM)	
(2.) Svetlana Shinkareva	Discrimination and Classification of Brain Functional images (2005)	

Position	Tenure-track Assistant Professor of Psychology, Univ South Carolina
(3.) Bing Gao	Clustering Analysis for Non-Stationary Time Series (2006)
Position	Biostatistician Manager, AMGEN
(4.) Moon-ho Ringo Ho	Effective Connectivity in fMRI Experiments: A State-Space Approach (2003)
Position	Associate Professor of Psychology, Nanyang Technological Univ, Singapore

#### At the University of Pittsburgh

(1.) Hsiao-Yun Huang	Classification and Discrimination in Non-Stationary Time Series (2003) (Co-Advised with David Stoffer)
Position	Associate Professor of Statistics, Fu-Jen University, Taiwan

### **Student Mentoring (As a Master's Thesis Adviser)**

#### At Brown University

(1.) Dong-Hyun Ahn 2010	Classification and Regression Tree Model for Identifying Important Predictors of Under-Utilization of Mammography among Women in the US
(2.) Beverly Gonzalez 2011	Plasma Cytokine Concentrations Associated with HIV/hepatitis C Coinfection are Related to Learning, Memory, and Global Neurocognitive Functions: A Best-Subsets Algorithm Approach Applied to Multivariate Regression Analysis
(3.) Sang-Jim Kim 2009	Bootstrap-based inference on the autocorrelation function of bivariate stationary time series
(4.) Joonhee Lee 2012	Model Selection by Penalized Least Square Method in Neuroimaging
(5.) Miao Pan 2012	A Bootstrap-CART Method for Selecting the Socio-Demographic Markers for Under-Utilization of Breast Cancer Screening

### **Student Mentoring (As PhD Committee Member)**

#### At the University of California at Irvine

(1.) Major Coleman	Department of Finance	2012
(2.) Robert Coleman	Department of Cognitive Science	2014
(3.) Xu Tian	Department of Statistics	2014
(4.) Bo Zhou	Department of Statistics	Expected 2014
(5.) Mario Silva	Department of Economics	Expected 2016

(6.) Paula Hao                      Department of Accounting                      Expected 2016

At Brown University

- (1.) Liang Wu                      Analysis of Brain Signals With Information Theoretic Methods (2008)  
Physics                      Advisor: Leon Cooper
- (2.) Jing Zhang                      Causal Inference and Mediation Models (2011)  
Biostatistics                      Advisor: Joseph Hogan
- (3.) Devin Koestler                      Model-Based Clustering of High-Dimensional Genomic Data (2011)  
Biostatistics                      Advisor: Andres Houseman

At the University of Illinois at Urbana-Champaign

- (1.) Yunming Mu                      Ph.D. in Statistics (2005)  
Advisor: Xuming He
- (2.) John Herrington                      Ph.D. in Psychology (2006)  
Advisor: Wendy Heller
- (3.) Xiaodong Li                      Ph.D. in Statistics (2006)  
Advisor: Jeffrey Douglas
- (4.) Appu Mohanty                      Ph.D. in Psychology (2006)  
Advisor: Greg Miller
- (5.) Elena Ryklevskhia,                      Ph.D. in Psychology (2006)  
Advisor: Monica Fabiani

---

**Student Mentoring (As a Master's Thesis Reader)**

At Brown University

- (1.) Jian Gong                      (2011)  
(2.) Zhe Yu                      (2012)

---

**Teaching**

At the University of California at Irvine

Stats 120A/Maths 131 A Introduction to Probability and Statistics (Fall 2012)  
Stats 120B/Maths 131B Introduction to Mathematical Statistics (Winter 2012)  
Stats 210 Statistical Methods I (Fall 2012)  
Stats 295 Special Topics on Time Series Analysis (Winter 2012)

At Brown University

Statistical Inference I (Estimation and Inference)  
Statistical Inference II (Basic Asymptotics, Advanced Inference)  
Special Topics: Time Series Analysis

## Generalized Linear Models

### At the University of Illinois at Urbana-Champaign

Mathematical Statistics (undergraduate)

Linear Model Theory (graduate)

Time Series Analysis (graduate)

Generalized Linear Models (undergraduate and graduate)

Applied Statistical Methods (undergraduate)

### At the University of Pittsburgh

Statistical Methods (undergraduate)

Analysis of Variance (graduate)

Regression Analysis (graduate)

Statistical Consulting (graduate)

---

## **Professional Activities**

Co-Guest Editor	Journal of Time Series Analysis Special Issue on Biological Time Series
Invited Session Organizer	Joint Statistical Meetings 2002, 2007, 2008, 2009, 2010, 2011  International Biometrics Society ENAR 2006, 2008, 2009, 2010, 2011, 2012, 2013
Student Paper Competition Chair	Statistical Learning and Data Mining, JSM 2010, 2011
Workshp Organizer Neuro-Stats	Brown University October 2010
Associate Editor	Journal of the American Statistical Association Theory and Methods (since 2005)  Statistical Analysis and Data Mining Journal (2009-2012)  Journal of the Royal Statistical Society (since 2011)  Metron (since 2013)
Grant Reviewer	NIA, NIH, NIMH, NSF (SES)
Panel Reviewer	NSF (DMS)
National Scientific Advisory Member	American Federation for Aging Research

Referee	Journal of the American Statistical Association Annals of Statistics Journal of the Royal Statistical Society Series B IEEE Transactions on Signal Processing Journal of Statistical Planning and Inference Journal of Probability and Statistical Sciences Technometrics NeuroImage Journal of Pediatric Epidemiology SLEEP Medicine Biometrical Journal Journal of Multivariate Analysis Biometrics Annals of Applied Statistics PNAS BMC Medicine Annals of Applied Statistics Statistica Sinica
---------	--

### **University and Departmental Service**

#### University of California at Irvine

Member	Statistics PhD Admissions (2012)
Organizer	Seminar Series (Fall 2012)
Member	Statistics Graduate Curriculum (2012)
Member	Executive Committee, School of Information and Computer Sciences (2012-2013)
Representative	ADVANCE Program (2012-)

#### Brown University

Member	University Executive Graduate Council (2009-2011)
Member	Executive Committee, Magnetic Resonance Imaging Center (since 2008)
Chair	Seminar Series, Center for Statistical Sciences (2007-2008)
Co-Organizer	University Lectureship Series (2008-2009)
Member	Faculty Search Committee in Biostatistics (2008-2010)
Member	Faculty Search Committee in Behavioral Sciences (2009)
Director	Masters Program in Biostatistics (2008-2011)
Member	Graduate Admissions Committee, MPH Program (2008)
Adviser	Filipino Alliance (FA) (2009-2012)

#### University of Illinois at Urbana-Champaign

Chair	Seminar Series, 2002-2005.
Member	Graduate Admissions and Awards Committee, 2002-2007.
Chair	Statistics and Neuroscience Discussion Forum, 2003.
Chair	Bohrer Workshop, 2005, 2006.
Member	Faculty Search Committee, 2004-2007.
Member	Executive Committee, 2005-2007.

#### University of Pittsburgh

Organizer	Brown Bag Seminar Series, Department of Statistics, 1999-2000
Member	Graduate Admissions and Awards Committee, 1999-2002