

438 Humphrey Street, New Haven, CT 06511  
<http://www.stat.yale.edu/~jay/>

[john.emerson@yale.edu](mailto:john.emerson@yale.edu)  
203-215-3540

## Education

- 1994-2002 Yale University, Ph.D. in Statistics  
*Dissertation:* Asymptotic Admissibility and Bayesian Estimation  
*Advisor:* John Hartigan, Eugene Higgins Professor of Statistics
- 1992-1994 Oxford University, M.Phil. in Economics  
*Topics of Study:* Micro and Macroeconomic Theory, Industrial Organization, and Econometrics  
*Thesis:* Finite-Sample Properties of Sample Selection Estimators: Principles and a Case Study
- 1988-1992 Williams College, B.A. in Economics and Mathematics, Magna Cum Laude  
*Honors Thesis in Mathematics:* Bayesian Categorical Data Analysis with Multivariate Qualitative Measurements

## Academic appointments

- 2009-present Associate Professor, Department of Statistics, Yale University
- 2006-present Faculty Affiliate, Yale Center for Environment Law and Policy
- 2007, 2009 Guest Professor, Peking University
- 2003-2009 Assistant Professor, Department of Statistics, Yale University
- 2003 Lecturer, Department of Statistics, Yale University
- 2001 Graduate Instructor for special Data Analysis section for professionals offered at Pfizer, Inc., Groton, CT
- 1996, 1997, 1999 Graduate Instructor, Department of Statistics, Yale University

## Other employment

- 2002-present Statistical Consultant, FBI and the U.S. Department of Justice, District of Connecticut. Perform study design and analysis for investigations of insurance and billing fraud.
- 2007-2009 Advisor/Consultant, REvolution Computing. Consulted on project design, strategic planning and open-source community involvement; taught training classes at Novartis, Sybase, and conferences.
- 2006-2009 Consultant, Pfizer, Inc. Conducted analysis of electrocardiogram data and developed software in R for use by researchers.

1999-2003	Systems Administrator, Department of Geology and Geophysics, Yale University. Performed Solaris/Linux/Windows systems design and maintenance (extensive Perl and shell scripting), supporting research and teaching of faculty and staff (full-time).
1995-1999	UNIX Systems Administrator, Department of Statistics, Yale University. Maintained departmental computing resources (part-time).
1996-1998	Marketing Research Consultant, CBS Network Television. Developed software in C and Perl for exploration of Nielsen panel viewer data.

### Ph.D. students

- Chandra Erdman. *Dissertation: Bayesian Change Point Analysis with Applications to Microarray Data*, 2009
- Michael Kane. *Dissertation: Scalable Strategies for Computing with Massive Data*, 2010

### Patent application

Cone-beam Computed Tomography on a Multimodal Imaging System. With Ming Jiang et.al, Peking University, 2010

### R packages

I have written a number of R packages implementing new statistical methodolog:

- **YaleToolkit**, **gpairs**, and **barcode**, containing graphical methods for exploratory data analysis
- **bcp**, for Bayesian change point analysis
- **ks.test** and **cvm.test**, for one-sample goodness-of-fit tests with discrete distributions
- A family of packages for scalable solutions to computing with massive data (see <http://www.bigmemory.org/>), for which Michael Kane and I won the John M. Chambers Statistical Software Award, 2010

### Select recent publications

- Emerson, John W. and Taylor Arnold (2011). “Statistical Sleuthing by Leveraging Human Nature: A Study of Olympic Figure Skating.” Accepted, *The American Statistician*.
- Emerson, John W., Daniel C. Esty, Tanja Srebotnak, and Diana Connett (2011). “Exploring Trade & the Environment: An Empirical Examination of Trade Openness and National Environmental Performance.” New Haven: Yale Center for Environmental Law and Policy.
- Emerson, John W. and Silas Meredith (2011). “Nationalistic Judging Bias in the 2000 Olympic Diving Competition.” *Math Horizons*, 18(3), 8-11.

- Crimin, Kimberly S., John W. Emerson, and Robb J. Muirhead (2010). "Reference regions for beat-to-beat ECG data." *Pharmaceutical Statistics* DOI: 10.1002/pst.444.
- Emerson, John W., D.C. Esty, M.A. Levy, C.H. Kim, V. Mara, A. de Sherbinin, and T. Srebotnjak (2010). *2010 Environmental Performance Index*. New Haven: Yale Center for Environmental Law and Policy.
- Emerson, John W., Miki Seltzer, and David Lin (2009). "Assessing Judging Bias: an Example from the 2000 Olympic Games." *The American Statistician* 63(2), 124-131.
- Emerson, John W., Marisa Dolled-Filhart, Lyndsay Harris, David L. Rimm, and David P. Tuck (2009). "Quantitative Assessment of Tissue Biomarkers and Construction of a Model to Predict Outcome in Breast Cancer Using Multiple Imputation." *Cancer Informatics* 2009:7, 29-40.
- Erdman, Chandra and John W. Emerson (2008). "A fast Bayesian change point analysis for the segmentation of microarray data." *Bioinformatics* 24(19) 2143-2148; doi: 10.1093/bioinformatics/btn404.
- Erdman, Chandra, and John W. Emerson (2007). "bcp: A Bayesian Analysis for Change Point Problems Using R." *Journal of Statistical Software* 23(3).
- Levin, Hillel Y. and John W. Emerson (2006). "Biases in the Jury Selection Process: A Study in Connecticut." *Connecticut Law Review* 38(3), 325-353.
- Shachar, Ron and John W. Emerson (2000). "Cast Demographics, Unobserved Segments, and Heterogeneous Switching Costs in a TV Viewing Choice Model." *Journal of Marketing Research* 37(2), 173-186.

### Select committees and service

- Associate Editor, *Journal of Statistical Software*, 2010-present
- Secretary/Treasurer, American Statistical Association Section on Statistical Graphics, 2010-present
- Volunteer Instructor, Yale Center for Analytical Sciences Summer Young Scholars Program (teaching New Haven area high school students), 2010-present
- Secretary of the Fellows, Jonathan Edwards College, Yale University, 2007-present
- Board of Directors, Yale Co-op. 1995-1999

### Select conferences and presentations

- Organizer, Invited Session, Joint Statistical Meetings, Miami, FL 2011: "The Future of Statistical Computing Environments"
- Organizer and Speaker, Topic Contributed Session, Joint Statistical Meetings, Miami, FL 2011: "Statistical Analyses of Judging in Athletic Competitions"
- Invited Speaker, Statistical Methods for Very Large Data Sets Conference, Baltimore, MD, June 2011
- Invited Speaker, seminar/workshop series, UNICAMP, Campinas, Brazil, September 2010
- Invited Speaker, Census Bureau, Washington, DC, July 2010
- Presenter of the 2010 Environmental Performance Index (press conference), World Economic Forum, Davos, Switzerland, January 2010
- Speaker, Chinese Environmental Performance Index Workshop, Hong Kong, June 2009