

## **Dr. Ori Rosen**

The University of Texas at El Paso  
Mathematical Sciences  
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### **Education**

D.Sc., Technion, 1996.  
Major: Statistics

M.Sc., Technion, 1992.  
Major: Statistics

B.Sc., Technion, 1986.  
Major: Industrial Engineering and Management

### **Professional Positions**

#### **Academic - Post-Secondary**

Professor, University of Texas at El Paso. (September 1, 2013 - Present).

Associate Professor, University of Texas at El Paso. (September 1, 2005 - August 31, 2013).

Assistant Professor, University of Pittsburgh. (August 1998 - August 2005).

Mellon Postdoctoral Fellow, Northwestern University. (August 1996 - August 1998).

### **Professional Memberships**

The American Statistical Association. (1997 - Present).

## **TEACHING**

### **Teaching Experience**

#### **The University of Texas at El Paso**

MATH 4399, Indiv Studies in Mathematics, 2 courses.  
MATH 5195, Graduate Seminar, 2 courses.  
MATH 5380, Mathematical Statistics I, 1 course.  
MATH 5381, Mathematical Statistics II, 1 course.  
MATH 5385, Statistics in Research, 1 course.  
RSRC 4033, Undergraduate Research, 1 course.  
STAT 2182, Computing Lab for STAT 2380, 4 courses.  
STAT 2380, Statistical Methods I, 2 courses.  
STAT 2480, Elementary Statistical Methods, 6 courses.  
STAT 3330, Probability, 2 courses.  
STAT 4380, Statistics I, 5 courses.  
STAT 4385, Applied Regression Analysis, 4 courses.  
STAT 5195, Graduate Seminar, 5 courses.  
STAT 5336, Catagorical Data Analysis, 3 courses.  
STAT 5380, Mathematical Statistics I, 1 course.  
STAT 5381, Mathematical Statistics II, 3 courses.  
STAT 5385, Statistics in Research, 3 courses.

STAT 5391, Time Series Analysis, 3 courses.  
STAT 5392, Statistical Computing, 5 courses.  
STAT 5398, MS Thesis, 5 courses.  
STAT 5399, MS Thesis, 11 courses.

## **Directed Student Learning**

Master's Thesis Committee Chair. (August 2014 - Present).  
Advised: Luis Mora

Master's Thesis Committee Chair, "Comparison of Bayesian Nonparametric Density Estimation Methods." (June 2012 - July 2013).  
Advised: Adel Bedoui

Master's Thesis Committee Member. (December 2011).  
Advised: Victor Jimenez

Master's Thesis Committee Member. (August 2011).  
Advised: Robert Ortega

Master's Thesis Committee Chair, "Bayesian Computational Methods for Hidden Markov Models." (August 2010 - August 2011).  
Advised: Samson Ghebremariam

Master's Thesis Committee Chair, "Bayesian Nonparametric Regression with a Flexible Error Term Distribution." (2008 - May 2010).  
Advised: Courtney Barnes

Master's Thesis Committee Member. (2009).  
Advised: Yanlei Peng

Master's Thesis Committee Chair, "Model-Based Cluster Analysis Using Bayesian Techniques." (August 2008).  
Advised: Dong Lin

Master's Thesis Committee Member. (2007).  
Advised: Bereket Weldelessie

Master's Thesis Committee Member. (2007).  
Advised: James Wood

Master's Thesis Committee Member. (2007).  
Advised: Manuel Rodriguez

Master's Thesis Committee Member. (2006).  
Advised: Seowon Jin

Master's Thesis Committee Member. (2006).  
Advised: Vernon Samuels

Dissertation Committee Member. (2005).  
Advised: Jeongeun Kim (University of Pittsburgh)

Dissertation Committee Chair, "Repeated Measures Mixture Modeling with Applications to Neuroscience." (January 2005).  
Advised: Zhuoxin Sun (University of Pittsburgh)

Dissertation Committee Member. (2004).  
 Advised: Hakan Gogtas (University of Pittsburgh)

Dissertation Committee Member. (2004).  
 Advised: Tulay Koru-Sengul (University of Pittsburgh)

Dissertation Defense Committee Member. (2003).  
 Advised: Hsiao-Yun Huang (University of Pittsburgh)

Dissertation Defense Committee Member. (2003).  
 Advised: Tatsuki Koyama (University of Pittsburgh)

Dissertation Committee Member. (2001).  
 Advised: Youngju Lee (University of Pittsburgh)

Master's Thesis Committee Member. (2001).  
 Advised: Laura Pulgarin (University of Pittsburgh)

## **RESEARCH**

### **Published Intellectual Contributions**

#### **Book Chapters**

King, G., Martin, T. A., Rosen, O. (2008). In Steven N. Durlauf and Lawrence E. Blume (Ed.),  
 New Palgrave Dictionary of Economics, Second edition.

#### **Refereed Journal Articles**

Rosen, O., Thompson, W. Bayesian Semiparametric Copula Estimation with Application to  
 Psychiatric Genetics. *To appear in Biometrical Journal*.

Wood, S., Stoffer, D., Rosen, O. (2012). AdaptSPEC: Adaptive Spectral Estimation for  
 Nonstationary Time Series. *Journal of the American Statistical Association*, 107, 1575-1589.

Wood, S., Kohn, R., Rosen, O. (2011). Bayesian Mixtures of Autoregressive Models. *Journal of  
 Computational and Graphical Statistics*, 20, 174-195.

Thompson, W. K., Rosen, O. (2009). A Bayesian Regression Model for Multivariate Functional  
 Data. *Computational Statistics and Data Analysis*, 53, 3773-3786.

Wood, S., Stoffer, D., Rosen, O. (2009). Local Spectral Analysis via a Bayesian Mixture of  
 Smoothing Splines. *Journal of the American Statistical Association*, 104, 249-262.

Thompson, W. K., Rosen, O. (2008). A Bayesian Model for Sparse Functional Data. *Biometrics*,  
 64, 54-63.

King, G., Tanner, M. A., Wagner, A., Rosen, O. (2008). The Ordinary Election of Adolf Hitler: A  
 Modern Voting Behavior Approach. *Journal of Economic History*, 68, 951-996.

Stoffer, D. S., Rosen, O. (2007). Automatic Estimation of Multivariate Spectra via Smoothing  
 Splines. *Biometrika*, 94, 335-345.

Sun, Z., Sampson, A. R., Rosen, O. (2007). Multivariate Bernoulli Mixture Models with  
 Application to Postmortem Tissue Studies in Schizophrenia. *Biometrics*, 63, 901-909.

- Shalabh, Gleser, L. J., Rosen, O. (2004). On the Usefulness of Knowledge of Error Variables in the Consistent Estimation of an Unreplicated Ultrastructural Model. *Journal of Statistical Computation and Simulation*, 74, 391-417.
- Cohen, A., Rosen, O. (2003). Analysis of Growth Curves via Mixtures. *Statistics in Medicine*, 22, 3641-3654.
- Jiang, W., King, G., Tanner, M. A., Rosen, O. (2001). Bayesian and Frequentist Inference for Ecological Inference: the R x C Case. *Statistica Neerlandica*, 55, 134-156.
- Liao, J., Rosen, O. (2001). Fast and Stable Algorithms for Computing and Sampling from the Noncentral Hypergeometric Distribution. *The American Statistician*, 55, 366-369.
- Jiang, W., Tanner, M. A., Rosen, O. (2000). Mixtures of Marginal Models. *Biometrika*, 87, 391-404.
- King, G., Tanner, M. A., Rosen, O. (1999). Binomial-Beta Hierarchical Models for Ecological Inference. *Sociological Methods and Research*, 28, 61-90.
- Tanner, M. A., Rosen, O. (1999). Mixtures of Proportional Hazards Regression Models. *Statistics in Medicine*, 18, 1119-1131.
- Weissman, I., Rosen, O. (1996). Comparison of Estimation Methods in Extreme Value Theory. *Communications in Statistics: Theory and Methods*, 25, 759-773.
- Cohen, A., Rosen, O. (1995). Constructing a Bootstrap Confidence Interval for the Unknown Concentration in Radioimmunoassay. *Statistics in Medicine*, 14, 935-952.

### Conference Proceedings

- Rosen, O. (2011). In D. Conesa, A. Forte, A. Lopez-Quilez and F. Munoz (Ed.), (pp. 523-528). IWSM 2011: Proceedings of the 26th International Workshop on Statistical Modelling.
- Wood, S., Kohn, R., Rosen, O. (2009). In Booth, J.G. (Ed.), (pp. 314-321). IWSM 2009: Proceedings of the 24th International Workshop on Statistical Modelling.
- Stoffer, D. S., Rosen, O. (2008). (pp. 263-272). Heidelberg: Functional and Operatorial Statistics, Physica-Verlag/Springer.
- Stoffer, D. S., Wood, S., Rosen, O. (2004). (pp. 3548-3550). 2003 ASA Proceedings of the Joint Statistical Meetings.
- Cohen, A., Rosen, O. (1996). In W. Hardle and M.G. Schimek (Ed.), (pp. 200-214). Statistical Theory and Computational Aspects of Smoothing, Contribution to Statistics, Physica Verlag.
- Cohen, A., Rosen, O. (1995). In G.U.H. Seeber, B.J. Francis, R. Hatzinger and G. Steckel-Berger (Ed.), (vol. 104). Statistical Modelling: Proceedings of the 10th International Workshop on Statistical Modelling, Lecture Notes in Statistics, Springer Verlag.

### Books, Edited

- King, G., Rosen, O. and Tanner, M.A (2004). *Ecological Inference: New Methodological Strategies* Cambridge University Press.

## Invited Presentations

Rosen, O., Joint Statistical Meetings, "Covariate Dependent Spectral Analysis of Multivariate Time Series with Application to Heart Rate Variability During Sleep," Boston, MA. (August 6, 2014).

Rosen, O., "Covariate Dependent Spectral Analysis of Multivariate Time Series with Application to Heart Rate Variability During Sleep," University of California, Irvine. (October 2013).

Rosen, O., "AdaptSPEC: Adaptive Spectral Estimation for Nonstationary Time Series," San Diego State University. (October 2012).

Rosen, O., "AdaptSPEC: Adaptive Spectral Estimation for Nonstationary Time Series," Technion, Israel. (January 2012).

Rosen, O., "AdaptSPEC: Adaptive Spectral Estimation for Nonstationary Time Series," Department of Statistics, University of Haifa, Israel. (December 2011).

Rosen, O., "AdaptSPEC: Adaptive Spectral Estimation for Nonstationary Time Series," University of Texas at Dallas, Dept. of Mathematical Sciences. (September 2011).

Rosen, O., "Adaptive Spectral Estimation for Nonstationary Time Series," Department of Statistics, Tel Aviv University, Israel. (December 2010).

Rosen, O., "Bayesian Mixtures of Autoregressive Models," Texas A&M University. (February 2010).

Rosen, O. (Presenter & Author), "Bayesian Mixtures of Autoregressive Models," Department of Mathematical Sciences, University of Texas at El Paso. (September 2009).

Rosen, O. (Presenter & Author), "A Bayesian Regression Model for Multivariate Functional Data," Department of Mathematics and Statistics, University of Melbourne, Australia. (June 2009).

Rosen, O. (Presenter & Author), "A Bayesian Regression Model for Multivariate Functional Data," M.D. Anderson Cancer Center, Houston, TX. (November 2008).

Rosen, O. (Presenter & Author), "Mixtures of State-Space Models for Time Series with Structural Breaks," Department of Mathematics, Bar-Ilan University, Israel. (January 2007).

Rosen, O. (Presenter & Author), "Mixtures of State-Space Models for Time Series with Structural Breaks," Department of Mathematics and Statistics, University of New Mexico, Albuquerque, NM. (November 2006).

Rosen, O. (Presenter & Author), Statfest, "Statistical Applications," University of Texas at El Paso. (November 2006).

Rosen, O. (Presenter & Author), 2006 Conference of Texas Statisticians (COTS), "Automatic Estimation of Multivariate Spectra via Smoothing Splines," Austin, TX. (March 2006).

Rosen, O. (Presenter & Author), "Automatic Estimation of Multivariate Spectra via Smoothing Splines," Department of Statistics, University of Haifa, Israel. (December 2005).

Rosen, O. (Presenter & Author), "Bayesian Mixtures for Locally Stationary Time Series," University of Toledo. (March 2005).

Rosen, O. (Presenter & Author), "Bayesian Mixtures for Locally Stationary Time Series," Department of Mathematical Sciences, University of Texas at El Paso. (February 2005).

Rosen, O. (Presenter & Author), "Bayesian Mixtures for Locally Stationary Time Series," Technion, Israel. (December 2004).

Rosen, O. (Presenter & Author), "Bayesian Mixtures for Locally Stationary Time Series," Australian Graduate School of Management, The University of New South Wales, Sydney, Australia. (May 2004).

Rosen, O., "The Ordinary Election of Adolf Hitler: A Modern Voting Behavior Approach," Department of Political Science, University of Pittsburgh. (October 2002).

Rosen, O., International Chinese Statistical Association 2001 Symposium, "Mixtures of Generalized Linear Mixed Models." (June 2001).

Rosen, O., "Bayesian and Frequentist Inference for Ecological Inference: the RxC Case," Department of Biostatistics, University of Pittsburgh. (December 2000).

Rosen, O., Analysis of Repeated Cross-Sectional Surveys, "Bayesian and Frequentist Inference for Ecological Inference: the RxC Case," Nijmegen, The Netherlands. (June 2000).

Rosen, O., "Mixtures of Marginal Models," Department of Statistics, Carnegie Mellon University, Pittsburgh. (February 1999).

Rosen, O., "Mixtures of Marginal Models," Department of Mathematics and Computer Science, Georgia State University. (March 1998).

Rosen, O., "Mixtures of Marginal Models," Department of Mathematical Sciences, University of Alberta, Edmonton, Canada. (February 1998).

Rosen, O., "Mixtures of Marginal Models," Mathematics and Statistics Department, University of Utah, Logan. (February 1998).

Rosen, O., "Mixtures of Marginal Models," Department of Statistics, University of Georgia, Athens. (February 1998).

Rosen, O., "Mixtures of Marginal Models," Department of Statistics, Northwestern University. (January 1998).

Rosen, O., "Mixtures of Marginal Models," Department of Biostatistics, Johns Hopkins University. (January 1998).

Rosen, O., "Mixtures of Marginal Models," Department of Statistics, Haifa University, Israel. (December 1997).

Rosen, O., "Mixtures of Marginal Models," Department of Statistics, The Hebrew University, Israel. (December 1997).

## **Contributed Presentations**

Rosen, O., Joint Statistical Meetings, "Bayesian Nonparametric Spectral Density Estimation," Montreal, Canada. (August 2013).

Rosen, O., Joint Statistical Meetings 2012, "AdaptSPEC: Adaptive Spectral Estimation for Nonstationary Time Series," San Diego, CA. (August 2012).

Rosen, O., Joint Statistical Meetings 2011, "Bayesian Semiparametric Regression Via Copulas," Miami Beach, Florida. (August 2011).

Rosen, O., "Adaptive Spectral Estimation for Nonstationary Time Series," 26th International Workshop on Statistical Modeling, Valencia, Spain. (July 2011).

Rosen, O., Joint Statistical Meetings, "Bayesian Mixtures of Autoregressive Models," Vancouver, Canada. (August 2010).

Rosen, O. (Presenter & Author), International Workshop on Statistical Modeling 2009, "Bayesian Mixtures of Autoregressive Models," Ithaca, NY. (July 20, 2009).

Rosen, O. (Presenter & Author), ENAR 2009, "A Bayesian Model for Multivariate Functional Data," San Antonio, TX. (March 16, 2009).

Rosen, O., 2008 Joint Statistical Meetings, "A Bayesian Model for Multivariate Functional Data," Denver, CO. (August 2008).

Rosen, O., Interface 2008, "A Bayesian Model for Multivariate Functional Data," Durham, NC. (May 2008).

Rosen, O., 2007 Joint Statistical Meetings, "Mixtures of State-Space Models for Time Series with Structural Breaks," Salt Lake City, UT. (July 2007).

Rosen, O., 2006 Joint Statistical Meetings, "Automatic Estimation of Multivariate Spectra via Smoothing Splines," Seattle, WA. (August 2006).

Rosen, O., Second Haifa Winter Workshop on Computer Science and Statistics, "Fitting Local Spectra to Time-Varying Processes," Haifa, Israel. (December 2003).

Rosen, O., 2003 Joint Statistical Meetings, "Fitting Local Spectra to Time-Varying Processes," San Francisco, CA. (August 2003).

Rosen, O., 2002 Joint Statistical Meetings, "Analysis of Growth Curves via Mixtures," New York, NY. (August 2002).

Rosen, O., Haifa Winter Workshop on Computer Science and Statistics, "Mixtures of Generalized Linear Mixed Models," Haifa, Israel. (December 2001).

Rosen, O., "Mixtures of Marginal Models," Department of Statistics, University of Pittsburgh. (February 1998).

## **Contracts, Grants and Sponsored Research**

### **Grant**

Rosen, O. (Principal), "Bayesian Time Series Methods in the Frequency Domain," Sponsored by NSF, Federal. (July 2015 - June 2018).

Rosen, O. (Principal), "Bayesian Time Series Methods in the Frequency Domain," Sponsored by NSA, Federal. (January 2016 - December 2017).

Rosen, O. (Principal), "Collaborative Research: Bayesian Statistical Methods for Dependent Data with Biomedical Applications," Sponsored by NSF, Federal. (May 2014).

Rosen, O. (Principal), "Bayesian Analysis of Correlated Data," Sponsored by NSA, Federal, \$61,930.00. (January 15, 2012 - January 14, 2014).

Rosen, O. (Principal), "Flexible Statistical Methods for the Analysis of Correlated Multivariate Data," Sponsored by NSF, Federal, \$120,000.00. (August 1, 2008 - July 31, 2011).

Rosen, O. (Principal), "Bayesian Analysis of Correlated Data," Sponsored by NSF, Federal. (December 31, 2010 - March 31, 2011).

Rosen, O. (Principal), "Collaborative Research: The Analysis of Time Series Collected in Experimental Designs," Sponsored by NSF, Federal, \$19,371.00. (July 1, 2007 - June 30, 2008).

Rosen, O. (Co-Principal), Stoffer, D. S. (Principal), "Time Series Analysis and Applications," Sponsored by NSF, Federal. (July 1, 2004 - June 30, 2007).

## **Research in Progress**

"Covariate Dependent Spectral Analysis of Multivariate Time Series with Application to Heart Rate Variability During Sleep" (Writing Results)

"Multivariate Mixture Model for Genome-Wide Association Studies" (On-Going)

"Spectral Analysis for Nonstationary Multivariate Time Series" (On-Going)

## **SERVICE**

### **Department Service**

Showcase. (2011 - Present).

Committee Member, Graduate Studies. (2010 - Present).

Committee Member, Statistics Ph.D Proposal. (2010 - Present).

Undergraduate advisor. (2007 - Present).

Alternate, Senator, Faculty Senate. (September 1, 2012 - August 31, 2014).

Senator. (2008 - 2011).

Committee Member, Task force committee. (2009).

### **College Service**

Committee Member, Associate Dean for Research Search Committee. (October 2014 - Present).

Committee Member, Strategic Plan. (2010).

### **University Service**

Committee Member, Faculty Senate Research Committee. (September 2014 - Present).

Committee Chair, Information Technology Committee. (October 2012 - January 2014).



Committee Member, Information Technology Committee. (September 2011 - August 2012).

## **Professional Service**

Referee, Communications in Statistics.

Referee, Journal of Computational and Graphical Statistics.

Referee, Journal of Forecasting.

Referee, Journal of the Royal Statistical Society Series A.

Referee, Journal of the Royal Statistical Society Series B.

Referee, Statistica Sinica.

Referee, Statistics in Medicine.

Referee, Technometrics.

Referee, Biometrika. (2012 - Present).

Guest Editor, Journal of Probability and Statistics. (May 2011 - Present).

Referee, Biometrics. (March 2011 - Present).

Referee, Journal of the American Statistical Association. (January 2011 - Present).

Referee, Annals of the Institute of Statistical Mathematics. (2010).

External reviewer for tenure. (2010).

Referee, Statistical Modeling. (2010).

Reviewer, Grant Proposal, NSF, Washington, DC. (February 2010).

Referee, Applied Mathematical Modelling. (2009).

Referee, Annals of the Institute of Statistical Mathematics. (2009).

Reviewer, Grant Proposal, NSF, D.C. (February 2, 2009 - February 4, 2009).