

Ryan T. Jarrett

CONTACT INFORMATION 2009 21st Avenue South (352) 214-7546
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RESEARCH INTERESTS Optimal design of experiments, replication of experimental results, nonlinear models, causal inference, spatial statistics

EDUCATION AND TRAINING **Vanderbilt University** Nashville, TN

Ph.D., [Biostatistics](#), Expected: 2019, GPA: 3.83

- Thesis Topic: Optimal Design of Replication Experiments
- Qualifying Exam: Optimal Design for Nonlinear Models
- Advisor: [Matt Shotwell, Ph.D](#)

Eckerd College St. Petersburg, FL

B.A., [Economics and International Relations and Global Affairs](#) (Double Major), May 2013

- High Honors, GPA: 3.87
- Advisors: [Diana Fuguitt, Ph.D](#), [Anthony Brunello, Ph.D](#)

RESEARCH EXPERIENCE **Vanderbilt University School of Medicine** Nashville, TN

Pharmacokinetic Study Design November 2016 to present

- Optimal sampling for pharmacokinetic models and approximate Bayesian computational methods for rapid personalized inference
 - * Nonlinear modeling of two compartment differential equation systems
 - * Approximation of MCMC posterior inference via Laplace and variational inference methods
 - * Identification of most informative sampling points for personalized model estimation
- Research Supervisor: [Matt Shotwell, Ph.D](#)

Research Assistant September 2014 to present

- Provided analytics for Tennessee Department of Children's Services and Vanderbilt University Center of Excellence for Children in State Custody
 - * Development of interactive web applications using R Shiny
 - * Geocoding and mapping of spatial data
 - * Risk-adjusted predictive modeling with mixed effects models
 - * Text mining of unstructured response data
 - * Construction of REDCap questionnaires with fully automated grading capabilities
- Research Supervisor: [Rameela Chandrasekhar, Ph.D](#)

Eckerd College St. Petersburg, FL

Environmental Science Research Assistant May 2013 to May 2014

- Surveyed individuals for an economic value study of the Sarasota Bay Estuary. The study aim was to assess the economic value of protecting and maintaining natural resources in the estuary
- Survey weighting, logistic regression, mosaic plots
- Research Supervisor: [Paul Hindsley, Ph.D](#)

Ford Scholar

September 2011 to May 2013

- Investigated pre-crisis risk factors that increased developing countries' susceptibility to the 2008 US Financial Crisis
- Mixed effects models for longitudinal/panel economic data
- Research Supervisor: [Diana Fuguitt, Ph.D](#)

TEACHING
EXPERIENCE**Teaching Assistant***Vanderbilt University*

Bios 7362: [Advanced Statistical Inference and Statistical Learning](#) Spring 2017
 Instructor: [Matt Shotwell, Ph.D](#)

Bios 8366: Bios 7361: [Advanced Probability and Real Analysis](#) Fall 2016
 Instructor: [Robert E. Johnson, Ph.D](#)

Eckerd College

HP1-HP2 184: [Freshman Honors Program](#) Fall 2012 - Spring 2013
 Instructor: [William Felice, Ph.D](#)

Mathnasium Instructor

October 2013 - July 2014

Taught K-12 mathematics at [Mathnasium of St. Petersburg Florida](#)

AWARDS

- First Place, GSS Student Data Challenge, ASA JSM August 2016
- First place won with [Lucy McGowan](#) in the Government Statistics Section's Data Challenge at the 2016 Joint Statistical Meetings
- Phi Beta Kappa April 2013
- Zeta of Florida Chapter
- Philip J. Lee Honor Award, Eckerd College May 2013
- Eckerd's highest academic award, given to a graduating senior for exceptional scholarly achievement
- Shepard-Williams IRGA Award, Eckerd College May 2013
- Awarded to a graduating senior for excellence in the field of international relations and global affairs
- ASPEC Outstanding Senior Award, Eckerd College May 2013
- Awarded to a graduating senior for outstanding service to the Eckerd and global communities
- Jack Bevan Memorial Scholar, Eckerd College May 2012
- Awarded for an excellent academic record as well as a record of campus service as a leader, catalyst for positive change, and source of support to other students

PEER REVIEWED
PUBLICATIONS

1. Shepherd, B. E., **Jarrett, R.**, and Fu, L. (2016). "GUIDO IMBENS, DONALD RUBIN, Causal Inference for Statistics, Social, and Biomedical Sciences: An Introduction." New York: Cambridge University Press. *Biometrics*, December 2016, Vol.72(4), pp.1387-1388.

PAPERS IN
PREPARATION

1. Scudder, D. **Jarrett, R.**, Kuhn, A., Chavali, N., Fernando, S., Anderson, K., Fleming, A. "How Does Curricular Reform Affect the Residency Selection Process and Associated Stress and Anxiety in Medical Students?" 2017.

2. Kuhn, A., **Jarrett, R.**, Chavali, N., Scudder, D., Wright, F., Kennedy, V., Drolet, B., Anderson, K., Fleming, A. “The Costs of Applying to Residency: One Institutions Efforts to Increase Transparency” 2017.

INVITED TALKS

1. “Using R Shiny as a Tool for Identifying Outlying Prescribers to a Vulnerable Population.” Webinar given to members of the Tennessee Department of Children’s Services and BlueCross BlueShield of Tennessee on October 19th, 2017.
2. “Optimal Design for Nonlinear Models.” Invited seminar given to the Vanderbilt Biostatistics department on September 20th, 2017.

PRESENTATIONS

1. TCOM conference, 2017 Oral Presentation
Epstein, R., Cull, M., **Jarrett, R.**, Schlueter, D., Chandrasekhar, R., Butler, M., Schaffer, A., and Gracey, K. (2017) “Using CANS to identify potentially problematic prescribing to youth in child welfare. 13th annual TCOM conference.” San Antonio, TX. October 4-6.
2. CEN-ISBS Joint Conference on Biometrics and Poster Presentation
Biopharmaceutical Statistics
Weeks, H., **Jarrett, R.**, Fissell, W., Shotwell, M. “Real time implementation of therapeutic drug monitoring to individualize treatment of infection in patients with acute kidney injury.” Vienna, Austria. Aug 30, 2017
3. ASA Joint Statistical Meeting 2017 E-Poster Presentation
Jarrett, R., Epstein, R., Cull, M., Schlueter, D., Gracey, K., Butler, M., Chandrasekhar, R. “Identification of Potentially Problematic Prescribing to a Vulnerable Population.” Baltimore, July 31, 2017
4. Translational Science 2017 Poster Presentation
Weeks, H., **Jarrett, R.**, Fissell, W., Shotwell, M. “Analyzing and Visualizing the Pharmacokinetics of Piperacillin to Improve Treatment of Infection in Patients with Acute Kidney Injury.” Washington, D.C., April 20, 2017
5. ASA Joint Statistical Meeting 2016 Oral Presentation
Jarrett, R., D’Agostino McGowan, L. “Assessing the Association Between Accident Injury Severity and NCAP Car Safety Ratings.” Government Statistics Section Student Data Challenge. Chicago, August 4, 2016
6. AAMC Annual Meeting 2016 Poster Presentation
Wright F., Kennedy V., **Jarrett R.**, Davidson M., Fleming A. “The Costs of Applying to Residency: One Institution’s Efforts to Increase Transparency.”

ADDITIONAL
PROFESSIONAL
SKILLS

- Computer Programming:
- R, Python, Stata, \LaTeX , SPSS
- Languages:
- English (Native)
 - Spanish (Professional Working Knowledge)