

Anthony D. Scotina

Curriculum Vitae

Division of Mathematics, Computing, and Statistics

Simmons University

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Education

- 2018 **Ph.D. Biostatistics**, Brown University, Providence, RI.
 - Dissertation: Estimation of Multi-Treatment Effects from Observational Data with Applications to Type 2 Diabetes Mellitus
 - Advisor: Roei Gutman
- 2014 **M.S. Statistics**, University of Massachusetts, Amherst, MA.
- 2012 **A.B. Mathematics and Psychology**, *cum laude*, College of the Holy Cross, Worcester, MA.

Experience

- 2019-present **Program Director**, *Data Science and Analytics*, Simmons University.
- 2018-present **Assistant Professor**, Simmons University, Division of Mathematics, Computing, and Statistics.
- 2014-2018 **Research Assistant**, Brown University, Center for Statistical Sciences.
- 2012-2014 **Teaching Assistant**, University of Massachusetts, Department of Mathematics and Statistics.
- 2011-2012 **Research Assistant**, College of the Holy Cross, Department of Psychology.

Teaching

Simmons University, Boston, MA

Instructor

- STAT 118: Introductory Statistics
 - Fall 2018 [21, 24], Spring 2019 [29, 29], Fall 2019 [22], Spring 2020 [25, 25], Fall 2020 [22], Fall 2021
- STAT 227: Statistical Design and Analysis
 - Fall 2019 [15, 13], Fall 2020 [11, 16], Fall 2021
- STAT 228: Introduction to Data Science
 - Spring 2020 [25], Spring 2021 [23]
- STAT/MATH 338: Probability Theory
 - Fall 2021
- STAT 391: Applied Causal Inference
 - Spring 2021 [14]
- SIM 201: Simmons Experience
 - Fall 2020, Spring 2021

Guest Lecturer

- MGMT 290: Wide World of Sports – *Statistics in Sports* (Fall 2018)

Brown University, Providence, RI

Instructor

- CEMA 0907: Statistics in the Real World
 - Summer 2014 [10], Summer 2015 [12], Summer 2016 [13], Summer 2017 [14], Summer 2018 [13], Summer 2019 [28]
- CEMA 0928: Statistics in the Real World [ONLINE]
 - Summer 2020 [30]
- Mathematical Statistics Review Workshop
 - Summer 2015, Summer 2016, Summer 2017

Teaching Assistant

- PHP 1501: Essentials of Data Analysis (Fall 2015)
- PHP 2520: Statistical Inference I (Fall 2016, Fall 2017)
- PHP 2530: Bayesian Statistical Methods (Spring 2017)
- PHP 2560: Introduction to Statistical Computing (Spring 2016)
- PHP 2601: Linear Models (Fall 2015)
- PHP 2610: Causal Inference and Missing Data (Fall 2016)

University of Massachusetts, Amherst, MA

Instructor

- STAT 111: Elementary Statistics (Summer 2013 [5])

Teaching Assistant

- STAT 240: Introduction to Statistics (Fall 2012, Spring 2013, Spring 2014)
- STAT 240: Introduction to Statistics (online) (Summer 2013, Winter 2013)
- STAT 697TS: Time Series Analysis and Applications (Spring 2014)
- MATH 131: Calculus I (Fall 2013)

* [·] denotes enrollment

Publications

Refereed Publications

- [1] Chen, B., Perler, B., Allegretti, J.R., Nativ, L., **Scotina, A.D.**, and Kelly, C.R. Prevalence of Irritable Bowel Syndrome Symptoms After Fecal Microbiota Transplant for *C. difficile*. *American Journal of Gastroenterology*. 2018; 113: S268.
- [2] **Scotina, A.D.** and Gutman, R. Matching algorithms for causal inference with multiple treatments. *Statistics in Medicine*. 2019; 38(17): 3139–3167.
 - DOI: <https://doi.org/10.1002/sim.8147>
 - Preprint: arXiv:1809.00269
- [3] **Scotina, A.D.** and Gutman, R. Matching estimators for causal effects of multiple treatments. *Statistical Methods in Medical Research*. 2020, 29(4): 1051–1066.
 - DOI: <https://doi.org/10.1177/0962280219850858>
 - Preprint: arXiv:1809.00268
- [4] **Scotina, A.D.**, Zullo, A.R., Dore, D.D., Smith, R.J., and Gutman, R. Approximate Bayesian bootstrap procedures to estimate multilevel treatment in observational studies with application to type 2 diabetes treatment regimens. *Statistical Methods in Medical Research*. 2020; 29(11): 3362–3380
 - DOI: <https://doi.org/10.1177/0962280220928109>
 - Preprint: arXiv:2001.06125

Submitted and In Preparation

- [5] Vieira, E.T., Li, Y., and **Scotina, A.D.**. Experian: A case study in CSR communication. *Submitted*.
- [6] **Scotina, A.D.** Simulation-Based Inference in R: Topics for an Introductory Course. *In preparation*.
- [7] **Scotina, A.D.** and Vieira, E.T. Sociological and Economic Factors Influencing the Propagation of COVID-19. *In preparation*.

Statistical Consulting

- 2020 Simmons University Institute for Inclusive Leadership
 - Assisted with data visualization and statistical communication of survey data from Simmons Leadership Conference attendees.
- 2021 Simmons University Department of Chemistry and Physics
 - Assisted Dr. Shreya Bhattacharyya and Biochemistry student Hann Tu with data visualization and statistical modeling on a project about various coatings used to prevent food spoilage.

Presentations

Contributed Talks

- [1] **Scotina, A.D.** and Gutman, R. Matching Estimators for Causal Effects of Multiple Treatments. *Brown University Department of Biostatistics Ph.D. Research Presentation Day*, Providence, RI. May 2016.
- [2] **Scotina, A.D.** and Gutman, R. Matching Estimators for Causal Effects of Multiple Treatments (Speed Presentation). *Joint Statistical Meetings*, Chicago, IL. August 2016.
- [3] **Scotina, A.D.** and Gutman, R. Matching Algorithms for Causal Inference with Multiple Treatments. *Brown University Department of Biostatistics Ph.D. Research Presentation Day*, Providence, RI. May 2017.
- [4] **Scotina, A.D.** and Gutman, R. Matching Estimators for Causal Effects of Multiple Treatments. *Joint Statistical Meetings*, Baltimore, MD. July 2017.
- [5] **Scotina, A.D.** and Gutman, R. Matching Algorithms for Causal Inference with Multiple Treatments. *International Conference on Health Policy Statistics*, Charleston, SC. January 2018.
- [6] **Scotina, A.D.**, Gutman, R., Zullo, A.R., Dore, D.D., and Smith, R.J. Using Generalized Propensity Score Matching to Evaluate the Cardiovascular Safety of Multiple Type 2 Diabetes Treatments. *International Society for Pharmacoepidemiology Mid-Year Meeting*, Toronto, Canada. April 2018.
- [7] **Scotina, A.D.** HallOfFameR: Using Shiny to Evaluate Hall of Fame Candidacy in Major League Baseball. *Brown University Department of Biostatistics Ph.D. Research Presentation Day*, Providence, RI. May 2018.
- [8] **Scotina, A.D.** and Gutman, R. Matching Algorithms for Causal Inference with Multiple Treatments. *Joint Statistical Meetings*, Denver, CO. July 2019.
- [9] **Scotina, A.D.**, Zullo, A.R., Smith, R.J., and **Gutman, R.** Approximate Bayesian Bootstrap Procedures to Estimate Multilevel Treatment in Observational Studies with Application to Type 2 Diabetes Treatment Regimens. *Joint Statistical Meetings*, Denver, CO. July 2019.

Panels and Roundtables

- [1] **Teaching (with) R** (roundtable leader). *Joint Statistical Meetings*, Denver, CO. July 2019.
- [2] **Blogging Data Science in an Introductory Course** (roundtable leader). *Joint Statistical Meetings*, Seattle, WA. August 2021.

Poster Presentations

- [1] **Scotina, A.D.**, Biolsi, J., and McGill, J. Interacting with Others: Modes of Communication and Non-Verbal Behaviors. *College of the Holy Cross Undergraduate Research Symposium*, Worcester, MA. April 2012.
- [2] **Scotina, A.D.**, Miller, M., and Mobilio, D. Predicting activPAL Posture from Actigraph Acceleration using Random Forest Models and Linear Discriminant Analysis. *University of Massachusetts Amherst Statistics Project Seminar*, Amherst, MA. April 2014.
- [3] **Scotina, A.D.** and Gutman, R. Matching Estimators for Causal Effects of Multiple Treatments. *Brown University Public Health Research Day*, Providence, RI. April 2016.
- [4] **Scotina, A.D.** and Gutman, R. Matching Estimators for Causal Effects of Multiple Treatments. *New England Statistics Symposium*, Yale University, New Haven, CT. April 2016.
- [5] **Scotina, A.D.** and Gutman, R. Matching Estimators for Causal Effects of Multiple Treatments. *Joint Statistical Meetings*, Chicago, IL. August 2016.
- [6] **Scotina, A.D.** and Gutman, R. Matching Estimators for Causal Effects of Multiple Treatments. *ENAR Spring Meetings*, Washington, D.C. March 2017.
- [7] **Scotina, A.D.** and Gutman, R. Matching Algorithms for Causal Inference with Multiple Treatments. *Brown University Public Health Research Day*, Providence, RI. April 2017.
- [8] **Scotina, A.D.**, Gutman, R., Zullo, A.R., Dore, D.D., Smith, R.J. Using Generalized Propensity Score Matching to Evaluate the Cardiovascular Safety of Multiple Type 2 Diabetes Treatments. *Brown University Public Health Research Day*, Providence, RI. April 2018.
- [9] Chen, B., Perler, B. Allegretti, J.R., Nativ, L. **Scotina, A.D.**, Kelly, C.R. Prevalence of Irritable Bowel Syndrome Symptoms After Fecal Microbiota Transplant for C Difficile. *American College of Gastroenterology Annual Scientific Meeting*, Philadelphia, PA. October 2018.

Research Grants

Completed

- [1] **Estimation of Multi-Treatment Effects from Observational Data with Application to Diabetes Mellitus**
 - Role: Investigator
 - Project PI: Gutman
 - Agency: PCORI
 - Period: 02/1/15 - 02/01/19
 - Amount: \$700,000

Service Activities

University Service

Simmons University

- 2021-present Course Lead, SIM 201/301
- 2021-present Course Developer, *CompleteDegree@Simmons*
- 2020-present Kotzen Scholarship Interviewer
- 2019-present First-year student (PLAN) advisor
- 2019-present Member, COCIS Technology Committee
- 2019-present Mock Class Instructor, Simmons Accepted Student Day
- 2020-2021 Member, Simmons Institutional Review Board
- 2021 Member, Mathematics/Statistics Faculty Search Committee
- 2020 Chair, Statistics/Data Science Faculty Search Committee
- 2020 Presented research on causal inference in observational studies during Simmons University community meeting

- 2020 Spoke on diversity, equity, and inclusion during fall COCIS retreat
- 2019-2021 Member, Assessment of Teaching and Learning Committee

Brown University

- 2016-2018 Statistics in the Community (STATCOM) Director, Brown University Chapter
- 2015-2016 Student representative, Department of Biostatistics Academic Programs Committee
- 2015-2016 Student representative, School of Public Health Graduate Programs Committee

Professional Service

- 2018-present Pi Mu Epsilon, Permanent chapter correspondent
- 2018 Abstract reviewer, *International Society of Pharmacoepidemiology Midyear Meeting*
- 2016 Chair, *Innovative Approaches to Causal Inference*, session at New England Statistics Symposium

Review Service

- *Journal of Statistics Education*
- *Journal of Quantitative Analysis in Sports*
- *PLOS One*
- *Statistics in Medicine*

Awards

- 2010 Pi Mu Epsilon (International Honor Society in Mathematics)
- 2011 Psi Chi (International Honor Society in Psychology)
- 2018 International Society of Pharmacoepidemiology Mid-year Conference Travel Award
 - Awarded \$850

Memberships

- 2016-present American Statistical Association

Computing Skills

- Advanced: R (tidyverse, tidymodels, R Markdown, Shiny, xaringan), L^AT_EX
- Experience with: Python, SQL, HTML, CSS