

# Lucy D'Agostino McGowan

www.lucymcgowan.com

✉ LucyMcGowan 🐦 LucyStats 🆔 0000-0001-7297-9359

**defining attributes** *goal-driven leadership, advanced analytic skills, strategic thinking, resourceful team player, sunny disposition, public speaking, organizational & communication skills*

## EDUCATION

**PhD** in Biostatistics, May 2018, GPA 3.95

VANDERBILT UNIVERSITY

*Thesis: Improving Modern Techniques of Causal Inference: Finite Sample Performance of ATM and ATO Doubly Robust Estimators, Variance Estimation for ATO Estimators, and Contextualized Tipping Point Sensitivity Analyses for Unmeasured Confounding*

**MS** in Biostatistics, December 2013, GPA 3.88

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

*Thesis: Quantitative Assessment of the Community Research Fellows Training Program*

**BA** with Distinction and Highest Honors

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Religious Studies: GPA 3.92 Romance Languages: GPA 3.86

## RESEARCH EXPERIENCE

2018-present

**Johns Hopkins Bloomberg School of Public Health**

*Postdoctoral fellow with Jeffrey Leek*

2017 March-August

**RStudio**

*Internship under Jenny Bryan developing the 'googledrive' R package*

2016-2017

**Vanderbilt University**

*NIH Big Data to Knowledge Training Fellow*

2015-2016, 2017-2018

**Vanderbilt University**

*Research Assistant, Department of Biostatistics and VA Tennessee Valley*

2015 Summer

**Cleveland Clinic**

*Summer Graduate Fellow, Department of Quantitative Health Sciences*

2013 Summer

**Graham Colditz Laboratory**

*Summer Intern, Washington University School of Medicine*

2012-2014

**Washington University School of Medicine**

*Research Assistant, Gutmann Research Laboratory, Department of Neurology*

2012-2014

**Washington University School of Medicine**

*Statistical Data Analyst, Department of Surgery, Division of Public Health Sciences*

# COMPUTING

**Expert:** R, Shiny, Git/GitHub, L<sup>A</sup>T<sub>E</sub>X, HTML/CSS, SAS

**Familiar:** Python, Stata, ArcGIS

# AWARDS

|           |  |
|-----------|--|
| 2018      | Vanderbilt Biostatistics Travel Award (ENAR)   |
| 2017      | NASA Datanauts, Class of 2017  |
| 2017      | useR!2017 Young Academic Scholarship   |
| 2017      | Caucus for Women in Statistics Travel Award  |
| 2016      | First Place, GSS Student Data Challenge, ASA Joint Statistical Meeting                 |
| 2016      | Second Place, SPAAC Poster Competition, ASA Joint Statistical Meeting                  |
| 2016      | Southern Startup Internship Program in Data Science (South BDHub)                      |
| 2016      | Vanderbilt Commodore Award in Biostatistics  |
| 2015      | First Place, GSS Student Data Challenge, ASA Joint Statistical Meeting                 |
| 2015      | Prezi Student Ambassador   |
| 2014      | SAS Student Scholar, PharmaSUG   |
| 2014      | SAS Student Ambassador, SAS Global Forum 2014  |
| 2013      | First Place, Student Research Competition, 141st APHA Annual Meeting                   |
| 2013      | Ellis R. Ott Scholarship: ASQ Statistics Division                                      |
| 2013      | Best Contributed Paper in the Statistics and Data Analysis Section at SAS Global Forum |
| 2013      | SAS Student Scholar, NESUG   |
| 2013      | SAS Student Ambassador, SAS Global Forum 2013  |
| 2012      | Gertrude M. Cox Scholarship for Women in Statistics Honorable Mention                  |
| 2012      | NIAF Jim Cantalupo Scholarship   |
| 2011-2012 | National Society of Leadership and Success   |
| 2011      | Dunlevie Honors Undergraduate Research Award   |
| 2010      | Programma Ponte Scholarship  |
| 2010      | Newman Scholar   |
| 2009-2012 | UNC Dean's List  |
| 2008-2012 | UNC Public Service Scholar   |

## OUTREACH

2018 Selection Committee, DataCamp Scholarship for Women and Gender Minorities  
2017-2018 President, Vanderbilt Biostatistics Graduate Student Association  
2017-2018 Abstract reviewer, R-Ladies Global  
2016-2018 Co-founder, Co-organizer, R-Ladies Nashville  
2016-2017 President, Vanderbilt Graduate Student Council  
2016-2017 Vice President, Vanderbilt Biostatistics Graduate Student Association  
2016 useR Student Volunteer  
2015-2016 Tutor, Tennessee Office of Refugees  
2015 Scholar, Scholarship of Teaching and Learning  
2014-2015 Vice President of Social Affairs, Vanderbilt Graduate Student Council

## PROFESSIONAL ACTIVITIES

### Professional Service

2019-2021 Council of Sections Representative, Section on Statistical Computing, ASA  
2018 Committee member, Women in Statistics and Data Science Service Project  
2017-2018 President, Nashville ASA Student Chapter  
2017 Panelist, Inaugural ASA Student Chapter Workshop  
2016-2017 Vice President, Co-founder, Nashville ASA Student Chapter  
2014 Abstract reviewer, Applied Public Health Statistics, American Public Health Association

### Referee

- Biostatistics
- The American Statistician
- BMJ Open
- rOpenSci

## TEACHING EXPERIENCE

### Vanderbilt University

- Frank Harrell's Regression Modeling Strategies (2017)
- Statistical Collaboration in Health Sciences Teaching Assistant (2015)
- Modern Regression Analysis Teaching Assistant (2015)
- Principles of Modern Biostatistics Teaching Assistant (2015)

## Washington University in St. Louis

- Introduction to SAS Teaching Assistant (2013)
- Introduction to Clinical Epidemiology Teaching Assistant (2013)
- Randomized Controlled Trials Teaching Assistant (2013)

## Online Courses

- DataCamp: Building Dashboards with shinydashboard (2018)

## INVITED PRESENTATIONS

### ENAR 2018

ORAL PRESENTATION

Lucy D’Agostino McGowan, Robert A. Greevy, Jr, “Exploring finite-sample bias in propensity score weights.”

### Data Day Texas 2018

ORAL PRESENTATION

Lucy D’Agostino McGowan, “Making Causal Claims as a Data Scientist: Tips and Tricks Using R.”

### ASA Joint Statistical Meeting 2018

ORAL PRESENTATION

Lucy D’Agostino McGowan, “Harnessing the Power of the Web via R Clients for Web APIs.”

### SAS Global Forum 2017

ORAL PRESENTATION

Lucy D’Agostino McGowan, “Streamline Your Workflow: Integrating SAS, LaTeX, and R into a Single Reproducible Document.”

### R-Ladies Nashville

ORAL PRESENTATION

Lucy D’Agostino McGowan, “An R + GitHub Journey.”

### SAS Global Forum 2016

ORAL PRESENTATION

Lucy D’Agostino McGowan, Robert A. Greevy, Jr, “Integrating SAS and R to Perform Optimal Propensity Score Matching.”

### SAS Global Forum 2015

ORAL PRESENTATION

Lucy D’Agostino McGowan, Alice Toll, “Using PROC SURVEYREG and PROC SURVEYLOGISTIC to Assess Potential Bias.”

### SAS Global Forum 2014

ORAL PRESENTATION

Lucy D’Agostino McGowan, Melody S. Goodman, Kimberly A. Kaphingst, “Using SAS/STAT® Software to Validate a Health Literacy Prediction Model in a Primary Care Setting.”

# CONTRIBUTED PRESENTATIONS

## **ENAR 2017**

ORAL PRESENTATION

Lucy D’Agostino McGowan, Robert Alan Greevy, Jr, “Simplifying and Contextualizing Sensitivity to Unmeasured Confounding Tipping Point Analyses.”

## **useR!2017**

ORAL PRESENTATION

Lucy D’Agostino McGowan, Nick Strayer, Jeff Leek, “papr: Tinder for pre-prints, a Shiny Application for collecting gut-reactions to pre-prints from the scientific community.”

## **ASA Joint Statistical Meeting 2017**

SPEED (ORAL + POSTER) PRESENTATION

Lucy D’Agostino McGowan, Robert A. Greevy, Jr, “Contextualizing Sensitivity Analysis in Observational Studies: Calculating Bias Factors for Known Covariates.”

## **Women in Statistics and Data Science 2017**

PANEL

Jenny Bryan, Mine Cetinkaya-Rundel, Lucy D’Agostino McGowan, Gabriela de Queiroz, Mine Dogucu, Katherine Scranton, Jennifer Thompson, “R-Ladies Panel: Improving gender diversity in a male-dominated community.”

## **ASA Joint Statistical Meeting 2016**

POSTER

Lucy D’Agostino McGowan, Robert A. Greevy, Jr, “Practical Guidance and Tools for Rule-Out Sensitivity to Unmeasured Confounding Analyses.”

## **ASA Joint Statistical Meeting 2016**

ORAL PRESENTATION

Ryan Jarrett, Lucy D’Agostino McGowan, “Assessing the Association Between Accident Injury Severity and NCAP Car Safety Ratings”.

## **ASA Joint Statistical Meeting 2015**

SPEED (ORAL + POSTER) PRESENTATION

Lucy D’Agostino McGowan, Alice Toll, “Census Tract-Level Disparities: Examining Food Swamps and Food Deserts.”

## **141st American Public Health Association Annual Meeting 2013**

POSTER

Lucy D’Agostino McGowan, Melody S. Goodman, “Developing County-Level Estimates of Racial Disparities in Obesity Using Multilevel Reweighted Regression.”

## **141st American Public Health Association Annual Meeting 2013**

ORAL PRESENTATION

Lucy D’Agostino McGowan, Melody S. Goodman, “Small Areal Estimation of Racial Disparities in Diabetes Using Multilevel Reweighted Regression.”

## **SAS Analytics 2013**

POSTER

Lucy D’Agostino McGowan, Patrick J. McGowan, “Mining Through Resumes: Utilizing SAS to Increase Efficiency and Objectivity in the Hiring Process.”

## **Northeast SAS Users Group 2013**

POSTER

Lucy D’Agostino McGowan, “SAS ® for Budgeting an Ideal Wedding.”

## **Northeast SAS Users Group 2013**

ORAL PRESENTATION

Lucy D’Agostino McGowan, Melody S. Goodman, “Using PROC GLIMMIX and PROC SGPLOT to Demonstrate County-level Racial Disparities in Obesity in North Carolina.”

## **SAS Global Forum 2013**

ORAL PRESENTATION

Lucy D’Agostino McGowan, Melody S. Goodman, “Multilevel Reweighted Regression Models to Estimate County-Level Racial Health Disparities Using PROC GLIMMIX.”

# SOFTWARE

## Author & Maintainer

**tipr**: An R package with tools for conducting tipping point sensitivity analyses.

**googledrive**: An R package that interfaces with Google Drive from R, allowing users to seamlessly manage files on Google Drive from the comfort of their console.

**contributr**: A Shiny Application developed in collaboration with Maelle and rOpenSci for finding beginner GitHub issues to contribute to.

**papr**: Tinder for pre-prints, a Shiny Application developed in collaboration with Jeff Leek and Nick Strayer for collecting gut-reactions to pre-prints from the scientific community

## Author

**datasauRus**: An R package made in collaboration with Steph Locke consisting of The Datasaurus Dozen, a set of datasets with the same summary statistics. They retain the same summary statistics despite having radically different distributions. The datasets represent a larger and quirkier object lesson that is typically taught via Anscombe's Quartet.

**meetupr**: An R package authored and maintained by R-Ladies to interface with the Meetup API

## Contributer

**cowsay**: An R package that allows printing of character strings as messages/warnings/etc. with ASCII animals, including cats, cows, frogs, chickens, ghosts, and more.

**RJafroc**: An R package for analyzing data acquired using the Receiver Operating Characteristic paradigm and its extensions.

# PUBLICATIONS

1. Blume JD, **D'Agostino McGowan L**, Dupont WD, Greevy Jr RA (2018). "Second-generation p-values: Improved rigor, reproducibility, & transparency in statistical analyses." *PloS one*, 13(3), e0188299.
2. Murff HJ, Roumie CL, Greevy RA, Hackstadt AJ, **D'Agostino McGowan L**, Hung AM, Grijalva CG, Griffin MR (2018). "Metformin use and incidence cancer risk: evidence for a selective protective effect against liver cancer." *Cancer causes & control : CCC*, 27(10), 1-10.
3. **D'Agostino McGowan L**, Roumie CL (2018). "Sulfonylureas as second line treatment for type 2 diabetes." *BMJ*, 362.
4. **D'Agostino McGowan L** (2018). *Improving Modern Techniques of Causal Inference: Finite Sample Performance of ATM and ATO Doubly Robust Estimators, Variance Estimation for ATO Estimators, and Contextualized Tipping Point Sensitivity Analyses for Unmeasured Confounding*. PhD thesis, Vanderbilt University.

5. Roumie CL, Min JY, **D’Agostino McGowan L**, Presley C, Grijalva CG, Hackstadt AJ, Hung AM, Greevy RA, Elasy T, Griffin MR (2017). “Comparative safety of sulfonylurea and metformin monotherapy on the risk of heart failure: a cohort study.” *Journal of the American Heart Association*, 6(4), e005379.
6. **D’Agostino McGowan L**, Bullen JA, Obuchowski NA (2016). “Location bias in ROC studies.” *Statistics in Biopharmaceutical Research*, 8(3), 258-267.
7. Drake BF, Brown K, **D’Agostino McGowan L**, Haslag-Minoff J, Kaphingst K (2016). “Secondary consent to biospecimen use in a prostate cancer biorepository.” *BMC research notes*, 9(1), 346.
8. Kaphingst KA, Stafford JD, **D’Agostino McGowan L**, Seo J, Lachance CR, Goodman MS (2015). “Effects of racial and ethnic group and health literacy on responses to genomic risk information in a medically underserved population.” *Health Psychology*, 34(2), 101.
9. Chen Y, **D’Agostino McGowan L**, Cimino PJ, Dahiya S, Leonard JR, Lee DY, Gutmann DH (2015). “Mouse low-grade gliomas contain cancer stem cells with unique molecular and functional properties.” *Cell reports*, 10(11), 1899-1912.
10. **D’Agostino McGowan L**, Stafford JD, Thompson VL, Johnson-Javois B, Goodman MS (2015). “Quantitative evaluation of the community research fellows training program.” *Frontiers in public health*, 3, 179.
11. Colditz GA, **D’Agostino McGowan L**, James AS, Bohlke K, Goodman MS (2014). “Screening for colorectal cancer: Using data to set prevention priorities.” *Cancer Causes & Control*, 25(1), 93-98.
12. Diggs-Andrews KA, Brown JA, Gianino SM, **D’Agostino McGowan L**, Rubin JB, Wozniak DF, Gutmann DH (2014). “reply.” *Annals of neurology*, 75(5), 800-801.
13. Fisher MJ, Loguidice M, Gutmann DH, Listernick R, Ferner RE, Ullrich NJ, Packer RJ, Tabori U, Hoffman RO, Ardern-Holmes SL, Hummel TR, Hargrave DR, Bouffet E, Charrow J, Bilaniuk LT, Balcer LJ, **D’Agostino McGowan L**, Liu GT (2014). “Gender as a disease modifier in neurofibromatosis type 1 optic pathway glioma.” *Annals of Neurology*, 75(5), 799-800.
14. Griffey RT, Kennedy SK, **D’Agostino McGowan L**, Goodman M, Kaphingst KA (2014). “Is low health literacy associated with increased emergency department utilization and recidivism?” *Academic Emergency Medicine*, 21(10), 1109-1115.
15. **D’Agostino McGowan L**, Gennarelli RL, Lyons SA, Goodman MS (2013). “Using small-area analysis to estimate county-level racial disparities in obesity demonstrating the necessity of targeted interventions.” *International journal of environmental research and public health*, 11(1), 418-428.

## PRESS

**Rising Star Talks About Statistics Journey, Future of the Profession** (2018) *Amstat News Magazine*. Available at: <http://magazine.amstat.org/blog/2018/09/01/starttalksstatistics/>

**Is your research hot or not? US boffins create “Tinder for preprints”** (2017) *The Register*. Available at: [https://www.theregister.co.uk/2017/06/19/science\\_research\\_tinder\\_preprint\\_app/](https://www.theregister.co.uk/2017/06/19/science_research_tinder_preprint_app/)

**Great paper? Swipe right on the new “Tinder for preprints” app** (2017) *Science*. Available at: <http://www.sciencemag.org/news/2017/06/great-paper-swipe-right-new-tinder-preprints-app>

**Swipe right for science: Papr app is “Tinder for preprints”** (2017) *Nature*. Available at: <https://www.nature.com/news/swipe-right-for-science-papr-app-is-tinder-for-preprints-1.22163>