**Justin B. Post, Ph.D.**

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**Education**

**Ph.D.**, Statistics

* North Carolina State University, Raleigh, NC
* Title: *Methods to Improve Prediction Accuracy Using Structural Constraints*
* Advisor: Howard D. Bondell
* Research interests: Statistics Education, Online Education, Adaptive Learning, Statistics in Sports, Data Science, Quantitative Literacy

**Master of Statistics**

* North Carolina State University. Raleigh, NC
* Concentration in Biomedical Statistics

**Bachelor of Science** in Mathematics

* Penn State Erie, The Behrend College. Erie, PA
* Minor in Statistics

**Professional Positions**

6/2018 – present **Teaching Associate Professor** at North Carolina State University

6/2018 – present **Director of Online Education**

8/2013 – 5/2018 **Teaching Assistant Professor** at North Carolina State University

5/2015 – 5/2018 **Director of Undergraduate Research**

8/2012 – 5/2013 **Assistant Professor** at the University of Mount Union

5/2013 – 8/2013 **Adjunct Instructor** at North Carolina State University

5/2012 – 8/2012

7/2010 – 6/2012 **Statistical Consultant** to the College of Agriculture and Life

Sciences at North Carolina State University

8/2007 – 5/2010 **Teaching Assistant** at North Carolina State University

**Director of Online Education Responsibilities**

**Position goals:** Improve and develop our online master of statistics and graduate certificate in applied statistics and data management programs. Provide guidance for other online/hybrid course offerings.

**Online master’s and certificate programs**

* Program direction
  + Created goals for master’s and certificate programs
  + Assessment of programs and student outcomes
  + Plan course offerings and update curriculum
* Advise current and potential students
* Developed student support and bridge materials
  + Online program orientation sessions
  + Created open programming courses
  + Hold sessions on useful/interesting topics (git/github, using the CLI, latex, makefiles, etc.)
* Program advertisement and recruitment
  + Created and maintain online program websites
  + Write current student, alumni, and faculty spotlight articles
  + Established a virtual graduate program information session with in-person program director
  + Monitor google ad activity and keywords
* Networking
  + Coordination of networking events and social media groups
  + Hosting of research round robin (PhD and master’s programs)
* Admissions for online master’s program

**Recording studio**

* Created lightboard and lecture recording space
* Developed training materials and best practices for faculty and teaching assistant use

**Coordination of Large Introductory Courses**

* ST 311 – Introduction to Statistics (direct oversight one semester)
* ST 307 – Introduction to Statistical Programming – R
* ST 308 – Introduction to Statistical Programming – SAS
  + Approximately 800-1000 students per semester in each of ST 311 and ST 307/308
  + Provide training to in-person and hybrid teaching assistant instructors
  + Development and updating of course materials

**Teaching & Curriculum Activity**

**Traditional (face-to-face) Course Development**

* Created ST 501 and ST 502 (Fundamentals of Statistical Inference I & II)
  + Statistics master’s degree core courses also serving financial mathematics students and graduate students interested in a PhD minor in statistics.
  + Modern treatment of theory with simulation (via the R software) used throughout to enhance understanding and intuition
  + Created interactive applications to allow students to investigate topics visually
  + Students implement simulation studies to investigate competing confidence interval and hypothesis testing methods

**Hybrid (or flipped) Course Development**

* Created ST 308 – Introduction to Statistical Programming – R (one credit)
* Transformed ST 307 – Introduction to Statistical Programming – SAS (one credit)
  + Both courses are required for statistics majors/minors and students form the College of Management
  + Interactive videos used as the lecture component with short follow up quizzes
  + I lead and train a team of teaching assistants that facilitate the hands-on in-person programming activities

**Online Course Development**

* Created ST 558 - Data Science for Statisticians (R based)
  + Statistics master’s elective and graduate certificate course
  + Deep dive into the use of R, R Markdown, the tidyverse, good programming practices, and the creation of dashboards via R Shiny
  + Survey of common machine learning methods, creation of APIs, and use of containers (via docker)
  + Comprehensive projects used to build a portfolio on github
  + Obtained Quality Matters certification of the course in Summer 2020
* Created ST 554 (pending course approval, ST 590) – Analysis of Big Data (python based)
  + Statistics master’s elective and graduate certificate course
  + Deep dive into the use of python (along with commonly used packages such as pandas, numpy, and scikit-learn), jupyter lab, and good programming practices
  + Use of spark (via pyspark) to handle, summarize, and model big data via pipelines
* Developed ST 513 and ST 514 (Statistics for Management and Social Sciences I & II)
  + Core sequence for our graduate certificate in Applied Statistics and Data Management
  + Hands-on statistical method sequence with use of software (SAS) throughout
  + Project based assessments and reports to hone student skills

**Open Online Course Development**

* [Created Basics of R course](https://docs.google.com/document/d/1R5PCdHgdzzu9ZOh0Li8oII1O00CnEBcMar6xH9O9kys/edit?usp=sharing)
* [Created Basics of SAS course](https://docs.google.com/document/d/13M5UFpKpPUY3jyQKSrwg9rsctE7BeegXRY5fqLTkNCM/edit?usp=sharing)
  + Designed to support our graduate students and faculty by providing basic training in R or SAS
  + Full course with quizzes and assignments available
* See “Other Teaching” for additional open course materials

**Courses Taught at NC State**

* ST 307 - Introduction to Statistical Programming - SAS
* ST 308 - Introduction to Statistical Programming - R
* ST 311 - Introduction to Statistics
* ST 370 - Probability and Statistics for Engineers
* ST 372 - Introduction to Statistical Inference and Regression
* ST 421 - Introduction to Mathematical Statistics I
* ST 422 - Introduction to Mathematical Statistics II
* ST 498 - Honors Research Project
* ST 501 - Fundamentals of Statistical Inference I
* ST 502 - Fundamentals of Statistical Inference II
* ST 511 - Statistics Methods for Researchers I
* ST 512 - Statistics Methods for Researchers II
* ST 513 - Statistics for Management and Social Sciences I
* ST 521 - Statistical Theory I
* ST 555 - Statistical Programming I
* ST 558 - Data Science for Statisticians
* ST 590 - Analysis of Big Data

**Other Teaching Activity**

**Data Matters** (Yearly data science courses put on by the Odum Institute, 2016-2023)

* [Basics of R for Data Science and Statistics](https://jbpost2.github.io/pages/OtherRCourses.html#DataMatters)
* [Improving R Programming](https://jbpost2.github.io/pages/OtherRCourses.html#DataMatters)
* [R for Automating Workflow and Sharing Work](https://jbpost2.github.io/pages/OtherRCourses.html#DataMatters)

**DATAWorks** workshops

* [Using R Markdown & the Tidyverse to Create Reproducible Research](https://jbpost2.github.io/R4Reproducibility/) (2022)
* Introduction to R (2018)

**Cary Academy (High School) guest lectures:**

* 2023 lectures: Six lectures about statistical modeling & inference including multiple linear regression and logistic regression. Students applied ideas to an actuarial competition
* 2021 lectures: Six lectures relating optimization, mathematical statistics, and machine learning. Students applied ideas to a Kaggle competition

**United States Conference on Teaching Statistics** workshops:

* [Teaching With R](https://jbpost2.github.io/TeachingWithR/CourseFiles.html) (2021)
* Creating R shiny Applications (with Dr. Herle McGowan, 2017)

**NC State Executive Education** programs:

* Infosys Data Science Program (2019-2020)
  + Calculus for Data Science
  + Statistical Thinking
* Cisco Foundations of Data Science Courses (2016-2018)
  + Multivariate Calculus for Data Science
  + Probability Overview
  + Statistics Overview

**Director of Undergraduate Education Roles**

**Position goal:** Get every student in the undergraduate program involved in an undergraduate research project or internship at least once during their time at NCSU

* Worked with statistics faculty to develop syllabi and expectations for projects suitable to undergraduates and language for inclusion of funding for projects in grant proposals. Projects needed to include
  + Application of methods to real data
  + Statistical programming
  + Write-up and presentation of analysis and results to both technical and non-technical audiences
  + Interactive application or striking visualization
  + Reflection on work completed and its relation to coursework and future plans
* Provided student support via
  + Advertisement of opportunities and matching of skillsets to projects
  + Mentoring and help through weekly group work meetings
  + Monthly group discussions and practice presentations

**Awards, Nominations, & Certifications**

2023 Graduate School Outstanding Graduate Faculty Mentor Award Nominee

2023 Two “Thank an Advisor Award”s

2023 RED Inclusive Teaching Certification

2023 Quality Matters Peer Reviewer Certification

2022 Course Quality Program Faculty Lead (NC State: DELTA $5000)

2022 North Carolina Education Datathon (member of winning team) ($2000)

2022 Provost’s Award for Excellence in Teaching Nominee

2021 Gertrude Cox Gertrude Cox Award for Innovative Excellence in Teaching and Learning with Technology Nominee

2021 Michael Dickey Outstanding Research Mentor Award Nominee

2013-2021 Sixteen “Thank a teacher” awards

2019-2020 D.D. Mason Award (Distinction to the statistics department through teaching, research, or service)

2020 ST 513/514 course redesign (Statistics Department $10,000)

2020 Online Course Improvement Program Grant (NC State: DELTA $4,000)

2020 STEM Education Initiative Grant (NC State: Provost’s Office $20,000)

2018-2020 Quantitative Literacy Champion (NC State: DASA $1,500/semester)

2019 Moodle Educator Certification

2019 Quality Matters APPQMR Certification

2019 Open Textbook Grant (NC State: Libraries $1,500)

2018, 2019 DELTA Faculty Fellows (NC State: DELTA $10,000)

2019 Certificate of Reflective Teaching Award

2018 Graduate student recruitment grant (NC State: Graduate School $1,400)

2018 Critical Path Redesign grant: renewal (NC State: DELTA $9,000)

2017 Critical Path Redesign grant (NC State: DELTA $24,000)

2017 Alumni Outstanding Teaching Award Recipient

2017 Outstanding Teaching Award Recipient

2013-2014 Interdisciplinary Liaisons Initiative Award (NC State: CHASS $1,000)

2010-2011 Gertrude M. Cox Academic Achievement Award Fellow (Outstanding Ph.D. Candidate)

2010-2011 Francis G. Giesbrecht Award (For excellence in Statistical Consulting)

2010-2011 Paige Plagge Graduate Award for Citizenship (Services to the department and students)

**Other Scholarly Activity**

**Papers**

* Spencer, D., Griffith, E., Briska, K., Post, J., Willis, C.. (2023) The Role of Non-cognitive Factors in the Introductory Statistics Classroom. Statistics Education Research Journal.
* Lin, T., Shah, Sanjay B., Wang-Li, L. Oviedo-Rondon, Edgar 0., Post, J.. (2016), Development of MOS sensor-based NH3 monitor for use in poultry houses. Computers and Electronics in Agriculture, 127: 708-715.
* McCormick, M., Grand, L., Post, J., and Cubeta, M.. (2013), Phylogenetic relatedness and phenotypic characterization of Fomes fasciatus and Fomes fomentarius sampled from the United States. Mycologia, 105, no 6: 1524-1534.
* Post, J. B. and Bondell, H. D. (2013), Factor Selection and Structural Identification in the Interaction ANOVA Model. Biometrics, 69: 70–79. doi: 10.1111/j.1541-0420.2012.01810.x

**Posters**

* Introductory Data Science Course Project: Retrieving data from an API and conducting an EDA, Justin Post. 2023 United States Conference on Teaching Statistics.
* Teaching and Student Exploration of Convergence Concepts Using Interactive Shiny Applications, Xiaoxia Champon, Justin Post. 2023 United States Conference on Teaching Statistics.
* Connecting to an API and Creating a Word Cloud in R, Justin Post. 2021 United States Conference on Teaching Statistics.
* Using Visuals to Improve Quantitative Literacy Outcomes in Principles of Genetics (GN 311), Justin Post. 2021 NC State Teaching and Learning Symposium.
* Case-Study Based Redesign of a Large Introductory Course for Non-Majors, Justin Post, Jonathan Duggins. 2018 Electronic Conference on Teaching Statistics.
* Scheduling Effects in the NBA and NHL, Jason A. Osborne, Justin Post. 2018 North Carolina American Statistical Association Recycled Poster Event, Hillsborough, NC.
* Scheduling Effects in the NBA and NHL, Jason A. Osborne, Justin Post. 2017 New England Symposium on Statistics in Sports, Harvard University, Cambridge, MA.
* Interactive Math Stat Visualizations Using R Shiny, Justin Post. 2016 Electronic Conference on Teaching Statistics.
* Modelling Umpire Misclassification of Balls and Strikes using PitchFX Data, Justin Post, Jason A. Osborne. 2013 New England Symposium on Statistics in Sports, Harvard University, Cambridge, MA.

**Talks, Webinars, & Non-peer reviewed articles**

* AI Chatbots & Statistics/Data Science Education, Justin Post, Matthew Beckman. 2023 United States Conference on Teaching Statistics.
* ChatGPT – Adapt, Embrace, or Reject. 2023 NC State Conference on Faculty Excellence (Roundtable organizer and participant)
* Statistics: Worlds of Opportunities. 2023 Pine Springs Preparatory Academy (Project-Based Learning Expert Talk)
* Early Adopters of Moodle 4 Share Experiences. 2022 North Carolina State University, DELTA article (Discussant)
* Talking Quantitative Data Through Discussion Boards. Justin Post. 2020 North Carolina State University, Provost’s newsletter, Pack hacks for Faculty. (Article)
* Creating a hands-on data exploration activity for your students - no programming required! Justin Post. 2020 North Carolina State University, Office of Faculty Development and Division of Academic and Student Affairs (Webinar).
* Championing General Education: A Model for Faculty Engagement in the General Education Assessment Process. Stephany Dunston, Samantha Rich, Justin Post. 2019 UNC System Student Success Conference. (Talk)
* Championing General Education:  A Model for Faculty Engagement in the General Education Assessment Process**.** Stephany Dunston, Samantha Rich, Casie Fedukovich, Justin Post, Carrie Zelna. 2019 NCAIR conference. (Talk)
* Teaching Statements. 2019 North Carolina State University, Academic Packways (Discussant)
* Flip Forward into the Pool of Student Engagement, Justin Post, Christopher Beeson. 2018, 2019 North Carolina State University. (Workshop given twice)
* Friday Live: Discussions on Teaching with Technology – Understanding how and why to flip a course. Justin Post. 2019 North Carolina State University, DELTA Friday webinar. (Webinar)
* Investing in Your Students: How to build a great TA Partnership. 2019 North Carolina State University, DELTA (Panel Member)
* Blended Learning, Bethany Smith, Justin Post. 2018 North Carolina State University. (Webinar)
* Sports and Statistics at NC State, Justin Post, Nick Kapur. 2018 Chancellor’s Visit, 2018 North Carolina State University. (Talk)
* Implementing a Department-wide Undergraduate Research Program, Justin Post. 2018 Joint Statistical Meetings, Vancouver, WA. (Talk)
* Integrating Programming into Statistics Curricula, Jonathan Duggins, Justin Post. 2018 Electronic Conference on Teaching Statistics. (Birds of a feather discussion)
* Discussing the Uses and Creation of R Shiny Applications, Justin Post. 2017 Joint Statistical Meetings, Baltimore, MD. (Roundtable)
* Increasing Undergraduate Student Knowledge and Interest Using a Sports Stats Club (Invited Session), Justin Post. 2015 Joint Statistical Meetings, Seattle, WA. (Talk)
* NFL Play Predictions, Will Burton and Michael Dickey (Adviser). 2015 Joint Statistical Meetings, Seattle, WA. (Speed session)
* Using NFL Draft Metrics to Predict Player Success, James Gilman, Nick Kapur, Justin Post. 2014 Joint Statistical Meetings, Boston, MA. (Talk)
* Effect of Shot Location Trends on Offensive Efficiency in the NBA, Michael Dickey, Justin Post. 2014 Joint Statistical Meetings, Boston, MA. (Speed Session)

**Engagement & Activities with Professional Associations**

* Joint Statistical Meetings
  + 2018 - Topic Contributed Session Organizer - Statistics Education
  + 2015 - Invited Session Organizer - Sports Data in Statistics Education
  + 2014 - Topic Contributed Session Chair - Sports Section Speed Session
* Ohio Spring Regional MAA Meetings
  + 2013 - Session Chair
* National Center for Faculty Development & Diversity member
  + 2016-2020
* American Statistical Association Sponsored Data Fest at Duke University
  + 2015, 2017 Judge
  + 2016 VIP Consultant

**North Carolina State University Related Service**

2019 – present Statistics department curriculum committee

2017 – present GLBT Advocate

2017 – present Teaching mentor to various statistics department faculty

2015 – 2018, 2022 – present Stat’n’Chat Organizer (Local Stat-Ed Group)

2023 Lecturer Search Committee Chair

2018 – 2021 Quant Literacy Champion: Division of Academic and Student Affairs

2020 Faculty Advisor to Deep Learning with R group

2018 – 2020 DELTA Faculty Fellow

2017 – 2020 Pack Promise Mentor (First Generation College Students)

2017 –2020 Goodnight scholar mentor

2013 – 2018 Faculty Advisor to Sports Analytics Club

2014 –2017 Faculty Advisor to Statistical Learning Group

2015, 2017 Teaching Professor Search Committee

2014, 2015, 2017 Qualifying Exam Committee