**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**

8/2024 – present **Teaching Professor** at North Carolina State University

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

3/2023 – present **Research Consultant**, Criminal Justice Institute, University of North Carolina - Chapel Hill

8/2018 – 7/2024 **Teaching Associate Professor** at North Carolina State University

8/2013 – 7/2018 **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 554 - Analysis of Big Data
* ST 555 - Statistical Programming I
* ST 558 - Data Science for Statisticians

**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-current Co-PI, Modules for Statistics Graduate Teaching Assistants Learning to Teach Equitably with Authentic Data (GTAs-LEAD) (NSF: IUSE $400,000)

2023-2024 SoTL Institute Scholar (NC State: OFE $1500)

2023-2024 Course Quality Program Faculty Lead (NC State: DELTA $5000)

2023 RED Inclusive Teaching Certification

2023 Quality Matters Peer Reviewer Certification

2023 Two “Thank an Advisor” awards

2023 Graduate School Outstanding Graduate Faculty Mentor Award Nominee

2022-2023 Course Quality Program Faculty Lead (NC State: DELTA $5000)

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

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**

* Using Generative AI to Supplement Learning in Statistical Programming Courses (Invited Session), Justin Post. 2024 Joint Statistical Meetings, Portland, OR. (Talk)
* Authentic Data Explorations: Investigating the Normal Distribution through Comparative Rent Data (Speed Session), Maria Cruciani, Justin Post, Jennifer Green, Sunghwan Byun. 2024 Joint Statistical Meetings, Portland, OR. (Co-author)
* GTAs’ Problems of Practice for Teaching Introductory Statistics Coruses (Topic-Contributed Paper Session), Sunghwan Byun, Jennifer Green, Justin Post, Maria Cruciani, Matthew Ferrell. 2024 Joint Statistical Meetings, Portland, OR. (Co-author)
* AI Chatbots & Statistics/Data Science Education, Justin Post, Matthew Beckman. 2023 United States Conference on Teaching Statistics. (Birds of a Feather Discussion)
* 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)
* 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**

2024 – present (Chair) Master’s and Graduate Certificate Curriculum Committee

2017 – present Teaching Mentor to Statistics Faculty

2019 – 2024 Statistics Department Curriculum Committee

2020 – 2024 Statistics Department Research Round Robin Host

2024 Lecturer Search Committee Chair

2023 Lecturer Search Committee Chair

2017 – 2023 GLBT Advocate

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

2016 - 2017 JUNTOS program development of reporting and database systems

2013 – 2018 Faculty Advisor to Sports Analytics Club

2014 – 2017 Faculty Advisor to Statistical Learning Group

**Other Service Areas**

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

2022 – present

2023 – present Reviewer, Journal of Statistics and Data Science Education

2021, 2023 Guest Lecturer, Cary Academy

2023 Project-Based Learning Expert, Pine Springs Preparatory Academy

2015, 2017 Data Fest Judge

2016 Data Fest VIP Consultant