

SHIH-NI PRIM

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(336) 254-3431

EDUCATION

PhD	North Carolina State University, Statistics Advisor: Brian Reich Cumulative GPA: 4.0	2022-present
MR	North Carolina State University, Statistics Cumulative GPA: 4.0	Dec 2022

RESEARCH INTERESTS

Bayesian inference and hierarchical modeling, spatial and spatiotemporal statistics, tensor decomposition, tensor regression, climate and environmental applications, causal inference, probabilistic machine learning, medical imaging analysis

CURRENT RESEARCH PROJECT

With Brian Reich and Yawen Guan, “A Multivariate Spectral Model with Adjustment for Unmeasured Confounders”: To find causal effects, we propose a spectral method that uses Bayesian hierarchical models to adjust for spatial confounding. We use tensor coefficients to allow for them to vary by frequency and shrinkage prior for variable selection. We intend to analyze the effects of environmental and socioeconomic factors on health outcomes.

COMPUTER SKILLS

Programming: R, Python, SAS, Matlab, Java

Certificate: SAS Certified Specialist: Base Programming Using SAS 9.4 (Issued May 2020)

RESEARCH EXPERIENCE

North Carolina State University, Raleigh, NC August 2022 to present
Research Trainee at Duke Clinical Research Institute

- Help with developing and evaluating analytic methods based on win statistics
- Shadow meetings of clinical research and received training on ethics of research

North Carolina State University, Raleigh, NC Summer 2022, July 2023 to present
Research Assistant

- Principal Investigators: Natalie Nelson (Department of Biological and Agricultural Engineering) and Brian Reich (Department of Statistics)
- Goal: Create statistical models to understand causes of harmful algal blooms

- Duties: Data cleaning, data analysis, statistical modeling, manuscript drafting

Wake Forest Baptist Health, Winston-Salem, NC

2021 to 2022

Volunteer Research Statistician / Intern

- Department of Radiation Oncology
 - Conduct Kaplan Meier Survival Analysis and Cox Proportional Hazard Model on retrospective data of patients with glioblastoma
 - Create tables and plots and help with writing and editing for publication
- Radiology Informatics and Image Processing Laboratory
 - Help collect MRI images and clinical data for studies that utilize machine learning for classification

Research Collaborator

2012 to 2020

Collaborators: Carol Severino, Deirdre Egan (University of Iowa)

- Examined how writing tutoring can influence students' writing and their perception of their writing skills
 - Conducted data cleaning and statistical analyses
 - Prepared tables and graphs for publications
 - Published three peer-reviewed journal articles (2015, 2016, 2020) and one book chapter (2013)
 - Participated in 10 conferences (2012, 2013, 2014, 2015, 2016, 2017)

Musicology Student / Researcher

2007 to 2020

- Studied the music of nineteenth-century Austrian composer Gustav Mahler's music and its reception in the United States
 - Published a single-author, peer-reviewed paper in *Association for Recorded Sound Collections Journal* (2017)
 - Made three conference presentations (2010, 2014, 2017)
- Published two book reviews in *Notes* (2019, 2021)

PUBLICATIONS

Chan MD, **Prim S**, Cramer C, Ruiz J. "Nonrandomized trials in clinical oncology." In *Handbook for Designing and Conducting Clinical and Translational Research: Translational Radiation Oncology*, edited by Adam E. M. Eltorai, Jeffrey A. Bakal, Daniel W. Kim, David E. Wazer, 313–284. 2023. Academic Press.

Helis CA, **Prim S**, Cramer CK, Strowd R, Lesser GJ, White JJ, Tatter SB, Laxton AW, Whitlow C, Lo H, Debinski W, Ververs JD, Black PJ, Chan MD, "Clinical outcomes of dose-escalated re-irradiation in patients with recurrent high-grade glioma." *Neuro-Oncology Practice* (2022). <https://doi.org/10.1093/nop/npac032>.

Severino C, Egan D, **Prim S**. "International Undergraduates' Perceptions of their Second Language Writing Development and Their Implications for Writing Center Tutors." *Writing Center Journal* 38/1-2 (2020): 165–202.

Prim S. “The Utah Symphony’s Recordings with Vanguard Records.” *Association for Recorded Sound Collections Journal* 48/1 (2017): 23–41.

Severino C, **Prim S.** “Second Language Writing Development and the Role of Tutors: A Case Study of an Online Writing Center ‘Frequent Flyer.’” *Writing Center Journal* 35, no. 3 (2016): 143–185.

Severino C, **Prim S.** “Word Choice Errors in Chinese Students’ English Writing and How Online Writing Center Tutors Respond to Them.” *Writing Center Journal* 34, no. 2 (2015): 115–143.

CONFERENCE PRESENTATIONS

Severino C, Egan D, **Prim S.** “International Undergraduates’ Perceptions of their Second Language Writing Development.” International Writing Centers Association, Chicago, November 12, 2017.

Prim S. “The Utah Symphony’s 1971 Goodwill Tour in Latin America: Cultural Diplomacy during the Cold War.” American Musicological Society Southeast Chapter Spring Meeting, Furman University, Greenville, SC, March 18, 2017.

Severino C, **Prim S.** “Second Language Writing Development and the Role of Tutors: A Case Study of an Online Writing Center ‘Frequent Flyer.’” Midwest Writing Centers Associations, Cedar Rapids, IA, March 4, 2016.

Prim S. “Maurice Abravanel and Gustav Mahler: The Reception of Early Mahler Recordings by Abravanel and the Utah Symphony Orchestra.” American Musicological Society Southeast Chapter Spring Meeting, University of North Carolina at Chapel Hill, NC, February 23, 2014.

Severino C, **Prim S.** “Using Higher/Lower Order Concerns and ‘Error Gravity’ to Examine Second Language Writing Problems and Tutors’ Responses to Them in Synchronous and Asynchronous Online and Face-to-Face Tutoring.” Midwest Writing Centers Association Conference, Skokie, IL, October 17–19, 2013.

Severino C, **Prim S.** “Chinese Writers’ English Word Choice Errors and Tutors’ Online Responses to Them.” International Writing Centers Association Conference, San Diego, CA, October 25–27, 2012.

Prim S. “Gustav Mahler’s *Das Lied von der Erde*: An Intellectual Journey Across Cultures and Beyond Life and Death.” Center for the Interdisciplinary Study of Music, University of California at Santa Barbara, CA, January 16–17, 2010.

PROFESSIONAL SERVICE

Book Reviewer

Notes (2018 to 2021)

Article Reviewer

Writing Center Journal (2015 to 2016)

Grant Reviewer

Reviewer, Professional Advancement Grants, Executive Council of Graduate & Professional Students, University of Iowa (2013)

Program Notes Writer

University of Iowa Symphony Orchestra and Saxophone Studio (2010 to 2012)

GRANTS AND FELLOWSHIPS

T32 Training Grant	2022 to present
Duke Clinical Research Institute	
Travel Grant	2016
Midwest Writing Centers Association	
Travel Grant	2013
Executive Council of Graduate & Professional Students, University of Iowa	
Study Abroad Award	2010 to 2012
Ministry of Education, Taiwan	

LANGUAGES

English, Mandarin, German, French, Italian

REFERENCES

Brian Reich, Gertrude M Cox Distinguished Professor of Statistics
Department of Statistics, North Carolina State University
Phone: 919-513-7686
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Yawen Guan, Assistant Professor
Department of Statistics, Colorado State University
Email: yawen.guan@colostate.edu

Natalie Nelson, Associate Professor
Department of Biological and Agricultural Engineering, North Carolina State University
Phone: 919-515-6741
Email: nnelson4@ncsu.edu

Justin Post, Associate Teaching Professor, Director of Statistics Online Education
Department of Statistics, North Carolina State University

Phone: 919-515-0637
Email: justin_post@ncsu.edu

OTHER EDUCATION

- PhD** University of Iowa, Musicology May 2016
Dissertation: “Maurice Abravanel and the Utah Symphony’s Performances and Recordings of Gustav Mahler’s Symphonies (1951–1979)” (Advisor: Nathan Platte)
- MM** Florida State University, Musicology May 2009
Thesis: “Gustav Mahler’s *Das Lied von der Erde*: An Intellectual Journey across Cultures and Beyond Life and Death” (Advisor: Douglass Seaton)
- MM** University of North Carolina at Greensboro, Saxophone Performance May 2006
- MA** University of North Carolina at Chapel Hill, Comparative Literature May 2004
Thesis: “Music-Myth into Comedy: How Shaw Used Wagner to Transform Mozart’s Legend” (Advisor: William Harmon)
- BA** National Chiao Tung University, Foreign Languages and Literatures June 2000

TEACHING EXPERIENCE

- North Carolina State University, Raleigh, NC** May to August 2022
Teaching Assistant, Department of Statistics
- Assist with two graduate courses: Fundamentals of Statistical Inference I and Fundamentals of Linear Models and Regression
 - Duties: Grade homework and hold weekly office hours
- Wake Forest University, Winston-Salem, NC** August 2017 to December 2017
Adjunct Faculty, Department of Music
- Independently designed and taught the course “Introduction to Western Music,” which covered western music history from the Middle Ages to the Twentieth Century
 - Used music as artifacts to help students think about history in the appropriate contexts and cultivate critical thinking
 - Provided necessary study aids including detailed guidelines and rubrics for writing assignments and study guides for exams
 - Used a scaffolding method to help students write research papers
- University of Iowa, Iowa City, IA** 2011 to 2016
Writing Tutor, Writing Center
- Online tutoring (Fall 2013–Spring 2016)
 - Provided feedback for papers through online tutoring (10 hours per week)
 - Online and Face-To-Face tutoring (Fall 2011, Spring 2012)
 - Met with 4 students for 4 hours of in-person tutoring sessions per week
 - Provided feedback for papers through online tutoring