

# PRINCE AFRIYIE

## EDUCATION

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Ph.D., Statistics *May 2016*  
Temple University, Philadelphia, PA  
Advisors: Dr. Sanat Sarkar (Temple University) and Dr. Karthik Devarajan (Fox Chase Cancer Research Center, Philadelphia)  
Dissertation: “Applications of Procedures Controlling the Tail Probability of the False Discovery Proportion”

M.S., Statistics *May 2014*  
Temple University, Philadelphia, PA

M.S., Mathematics *May 2011*  
Ball State University, Muncie, IN

B.S. Mathematics *May 2008*  
Northern Kentucky University, Highland Heights, KY  
Minor in Physics

## PROFESSIONAL EXPERIENCE

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Associate Professor of Data Science, Academic Program Director, Master of Science in Data Science *July 2023 – Present*  
University of Virginia, Charlottesville, VA

Assistant Professor in Statistics, Academic *August 2019 – July 2023*  
University of Virginia, Charlottesville, VA

Assistant Professor in Statistics *September 2016 – June 2019*  
California Polytechnic State University, San Luis Obispo, CA

Adjunct Professor in Mathematics *August 2012 – August 2016*  
La Salle University, Philadelphia, PA

Instructor in Statistics *January 2012 – August 2016*  
Temple University, Philadelphia, PA

Instructor in Mathematics and Statistics *August 2009 – May 2011*  
Ball State University, Muncie, IN

## TEACHING AND SUPERVISING

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**University of Virginia**  
*Assistant Professor, General Faculty*

- STAT 1601: Introduction to Data Science with R, fall 2019, spring 2020, summer 2020, fall 2020, J-term 2021, spring 2021, fall 2021, J-term 2022, spring 2022, summer 2022
- STAT 3120: Introduction to Mathematical Statistics, summer 2021, summer 2022
- STAT 2120: Introduction to Statistical Analysis, summer 2021
- Undergraduate research project. Ada Zhang: “factors that may increase the completion rate of calprotectin test for patients with irritable bowel disease”. Ongoing project in collaboration with Dr. Esteban Figueroa of UVA Health.

## **California Polytechnic State University**

### *Assistant Professor*

- Stat 251: Statistical Inference for Management I, fall 2016, spring 2017, fall 2017.
- Stat 252: Statistical Inference for Management II, winter 2017.
- Stat 218: Statistics for the Life Sciences, summer 2017.
- GSB 512: Quantitative Methods (graduate course for MSA), fall intersection 2017, 2018.
- GSB 512: Quantitative Methods (graduate course for MBA), fall 2017.
- STAT 426: Estimation and Sampling Theory, winter 2018.
- STAT 427: Mathematical Statistics, spring 2018.
- STAT 461/462: Senior Project I/II, fall 2017, winter 2018, spring 2018.
  - Evan Trevino: “Characterization of Soil Microbial Communities and the Influence of Varying Viticulture Practices using Parametric and Non-parametric methods” – 2016 data analysis.
  - Gabrielle Ilenstine: “Evaluation of Various Viticulture Practices on Soil Microbial Communities using Principal Component Analysis” – 2016 data analysis.
- Frost Summer Research, 2018
  - Nick Brown: “An Exploration into Various Viticulture Practices Influence on Soil Microbial Communities using Principal Component Analysis and Multiple Factor Analysis” – 2016, 2017 data analysis.

## **La Salle University**

### *Adjunct Professor*

- Math 114: Business Calculus, spring 2014, 2015.
- Math 150: Math Myths and Realities, fall 2012, 2013, 2014.
- Math 101: Intermediate Algebra, summer 2014, 2015, fall 2015.

## **Temple University**

### *Instructor*

- Stat 1102: Quantitative methods for business II, spring 2012, 2013, fall 2013, 2015, summer 2012, 2015.
- Stat 2103: Statistical business analytics, fall 2014, summer 2014.
- Stat 1001: Quantitative methods for business I, spring 2014, 2015.

### *Teaching Assistant*

- Stat 8112: Statistical methods for business research, fall 2012, 2013.
- Stat 5801: Statistical analysis for management, spring 2013.
- Stat 2512: Intermediate statistics, spring 2014, fall 2014.

## **Ball State University**

### *Instructor*

- Math 165: Elementary probability and statistics, fall 2009.
- Math 120: Business calculus, spring 2010, 2011, fall 2010.

### **AWARDS AND GRANTS**

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- UVA: The President and Provost Fund for Institutional Related Research  
Date: June 7<sup>th</sup>, 2022  
Title: Hoos Learn Together: Increasing Sense of Belonging in Large-Enrollment Courses  
Grant amount: \$135,000  
Role: Co-PI
- Terrence Harris Award for Excellence in Mentorship, 2019. Cal Poly.
- Agricultural Research Institute (ARI) grant. “Shoot and cluster development as a function of position along the cordon”, fall 2017.  
Grant amount: \$2,000 as the statistician for the project.
- ARI grant. “Examining the impact of berry size on wine chemistry and sensory”  
Grant amount: \$105,851 for the 3-year project beginning fall 2018.  
Role: Co-principal Investigator.
- Graduate assistantship, Temple University, 2011 – 2016.
- Temple University Fox School of Business school-wide award for dissertation proposal competition: second place. Fall 2015.
- The award for excellence in doctoral teaching in the statistics program, Temple University, May 2015.
- The William W.S. Wei Scholarship, Temple University, May 2013.
- Certificate of achievement, department of mathematical sciences, Ball State University, April 2011.
- Certificate of achievement, department of mathematical sciences, Ball State University, April 2010.
- Graduate assistantship, Ball State University, 2009 – 2011.

### **SERVICE, CITIZENSHIP, and PROFESSIONAL ACTIVITIES**

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#### **University of Virginia**

##### *Assistant Professor, General Faculty*

- **Statistics Review Committee**, Centers for Disease Control and Prevention journal, Preventing Chronic Diseases: July 2023 to present.
- **Program Director: 4+1 and 3+1 MS in Statistics. Fall 2020 to present.**  
Roles:
  - ❖ Communicating (email, in-person and virtual meetings) with prospective students
  - ❖ Holding semi-annual workshops/open-house events for prospective students to inform them about the admission process and criteria
  - ❖ Building and updating the webpage for the program
  - ❖ Admission: review applications for the program
  - ❖ Writing admission/denial email offers
  - ❖ Collaborating to the College of Arts and Sciences Graduate Admissions Office to send official letters.

- **Advanced Placement (AP) Statistics Development Committee member.** July 2021 – Present.  
Role: write and review AP statistics exams questions, develop course curriculum, determine the general content and ability level of each exam, and determine requirements for course syllabi.
- **Statistics professional learning series,** Dana Center, University of Texas, Austin. December 2<sup>nd</sup>, 2020 through April 2021.  
Role: Develop and provide a Focused Online Collaborative Interactions (FOCI) professional learning series to train hundreds of two-year college mathematics faculty to teach high-quality, equity-minded, corequisite and gateway introductory statistics courses. This includes, development of outlines for six sessions of the series, protocols, PowerPoints, and assignments that provide preparation and follow-up for each session. This work will be reviewed externally.
  - Session 1: Guiding Student Thinking About Implications of Data Collection Methods
  - Session 2: Developing Student Understanding of Sampling Variability
  - Session 3: Fostering Understanding of Statistical Significance and Practical Significance
  - Session 4: Building a Foundation for Selecting Appropriate Data Analysis Methods
  - Session 5: Providing Experience with Describing Relationships and Building Linear
  - Session 6: Developing Conceptual Understanding of Probability and Addressing

Series Authors: **Prince Afriyie** and Roxy Peck

Impact of series: Since summer 2020, the FOCI series have runs about 4 cohorts, approximately 20 statistics educators across the US per cohort, every summer, fall and spring.

<https://www.utdanacenter.org/our-work/higher-education/higher-education-services/foci/foci-series-7>

- **Statistics Advisory Group member,** Dana Center, University of Texas, Austin. December 15<sup>th</sup>, 2020, through December 29<sup>th</sup> 2020.  
Role: help create learning outcomes of college-level course in statistics that actively engages students from Black, Latinx, Asian, and Indigenous communities.
- **College Fellow:** College of Arts and Sciences instructor of engagement courses – Story Telling with Data.  
Date of appointment: November 2022.
- **Faculty mentor,** the office of Graduate and Postdoctoral Affairs – Diversity Programs. AY 2022-23.
- **Invited speaker: UVA College of Science Scholars.** Topic: Multiple Hypothesis Testing. Date: March 3<sup>rd</sup>, 2022
- **Faculty panelist:** Days on the Lawn, UVA College Arts and Sciences. Date: April 22<sup>nd</sup>, 2022
- **Faculty advisor** for the undergraduate students in Statistics (advise about 200 students per year on average)

- **Cavalry Club, faculty mentor** AY 2019, 2020
- **Search committee member:** Lecturer, summer 2020; General faculty, spring 2021; Lecturer, summer 2022
- **Committee member:** Justice, Equity, Diversity, and Inclusion Committee; Undergraduate Committee
- **Applied Multivariate Course proposal**, approved in spring 2021
- **Evaluator, MS Exams:** spring 2020, spring 2021, spring 2022
- **Invited session:** Joint Statistical Meetings. August 10<sup>th</sup>, 2022  
Topic: Should Science Abandon Statistical Significance?  
Role: Chair
- **Invited speaker:** Ball State University Graduate Statistics Program, Golden Jubilee. April 22<sup>nd</sup>, 2022. Prominent alumni invitation.  
Role: Research talk
- **Reviewer for Center for Curriculum Design in partnership with the Gates Foundation.** Dec 2021/January 2022.  
Role: reviewed student learning outcomes and related core concepts for introductory statistics to help reach target populations in core undergraduate courses.  
<https://curriculumredesign.org/wp-content/uploads/Introductory-Statistics-Learning-Outcomes-FINAL-CCR.pdf>
- **Invited speaker: United States Conference On Teaching Statistics.** July 2021.  
Role: panelist for a keynote panel discussion session on “Expanding Horizons and Fostering Diversity.”
- **AP reading in statistics, Educational Testing Service.** June 2020.  
Role: Exam reader

### **California Polytechnic State University**

#### *Assistant Professor*

- BEACoN Mentor for underrepresented students.
- 2018 Polycultural Weekend: faculty representative, Statistics Department.
- Master’s program in statistics proposal: Committee chair.
- Senior project organization: Organizing team member.
- Colloquium series organizer.
- Department diversity committee: team member.
- COSAM graduate school resource fair: Panelist.
- “Consulting client” for stat 465 course, spring 2017.
- 2017, 2018 Open house: Faculty representative, Statistics Department.
- Attended commencement, spring 2017, 2018.
- Attended fall conference, 2016, 2017.

## JOURNAL PUBLICATIONS

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- Date of work: January 2022 – March 2022  
Journal: Journal of the American College of Cardiology: Heart Failure  
Published on: Oct 31<sup>st</sup>, 2022.  
Authors: Matthew Miller, Jamey Cutts, Marissa Donatelle<sup>1</sup>, Kajal Shah, Fardous Abeya, Nicholas Ashur, Edward Rojas, Nishaki Mehta, Younghoon Kwon, Nishtha Sodhi, Scott Lim, **Prince Afriyie**, Kenneth Bilchick, Sula Mazimba  
Title: “Right atrial structural remodeling predict worse outcomes in transcatheter mitral valve repair”.  
*doi:10.1002/ccd.30471*

Role: Statistician/Data Scientist

- Date of work: April 2019 – June 2022  
Journal: Agronomy  
Publication date: July 25<sup>th</sup>, 2022  
Authors: Jose Munoz, Dylan Ellis, Claire Villasenor, Michael Anderson, Michael Andrew Walker, **Prince Afriyie**, Jean Catherine Dodson Peterson  
Title: “The Effect of Spur Position and Pruning Severity on Shoot Development”.

<https://www.mdpi.com/2073-4395/12/7/1634>

Role: Statistician/Data Scientist

- Date of work: May 30 – July 1, 2020  
Peer Reviewed Journal: Journal of Statistics and Data Science Education  
Authors: Allan Rossman, **P. Afriyie**.  
Title: “Interview With Prince Afriyie: From Ghana to America”.  
Publication date: August 11, 2020

<https://doi.org/10.1080/10691898.2020.1795468>

Role: Interviewee.

- Date of work: August 2017 – March 2020  
Peer Reviewed Journal: Applied Soil Ecology  
Authors: Cristina Lazcano, Holly M Deniston-Sheets, Craig Stubler, Amanda Hodson, Katharine R Watts, **Prince Afriyie**, Federico Casassa, Jean C Dodson Peterson  
Title: “Soil management induced shifts in nematode food webs within a Mediterranean Vineyard in the Central Coast of California (USA)”.  
Publication date: October 26<sup>th</sup>, 2020

<https://doi.org/10.1016/j.apsoil.2020.103756>

Role: Statistician.

- Date of work: March 2018 – March 2019  
Conference: Proceedings of 29th IAPRI Symposium on Packaging  
At: Enschede, The Netherlands  
Volume: 1, pp. 345-357  
Publication date: June 2019  
Authors: Irene Carbonell, Javier de la Fuente, **Prince Afriyie**  
Title: “Using Mobile Eye Tracking and Coefficient K for Analyzing Usability Trials”.  
Publication date: October 26<sup>th</sup>, 2020.

<https://www.researchgate.net/publication/339275027>

Role: Statistician.

- Date of work: May 2013 – June 2015  
Peer Reviewed Journal: International Journal of Biostatistics  
Authors: K. Das, **P. Afriyie**, L. Spirko.  
Title: “A semiparametric Bayesian approach for analyzing longitudinal data from multiple related groups”.  
Publication date: November 13 2015.

DOI 10.1515/ijb-2015-0002

Role: Data analysis, simulation and statistical theory.

- Date of work: 2011  
Affiliated to Ball State University: Ball State University Mathematics Exchange, 2011.  
Authors: **P. Afriyie**, M. Begum  
Title: A review of graphical modelling  
Role: Master’s degree thesis requirement.

## **RESEARCH PAPERS IN PROGRESS**

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- Date of work: January 2022 – April, 2022  
Journal: Catheterization and Cardiovascular Interventions  
Re-Submitted on: March, 2023.  
Authors: Josephine Lamp, Yuxin Wu, Steven Lamp, **Prince Afriyie, PhD**, Nicholas Ashur, MD, Kenneth Bilchick, MD, Khadijah Breathett, MD, MS, Younghoon Kwon, MD, MS, Song Li, MD, Nishaki Mehta, MD, Edward Rojas Pena, MD, Lu Feng, PhD, Sula Mazimba, MD, MPH  
Title: “Characterizing Advanced Heart Failure Risk and HemodyNAMic Phenotypes using Learned Multi Valued Decision Diagrams (CARNA)”.

Role: Statistician/Data Scientist

- Date of work: April 2022 – present  
Journal: Journal of the American College of Cardiology: Heart Failure  
Authors: Joshua Makepeace, **Prince Afriye**, Katherine Daniel, Olivia Ondigi, Alper Turgut, Matthew van Houten, Michael Salerno, Kenneth Bilchick, Sula Mazimba  
Title: “Association of Pulmonary Transit Time with Mortality and Right Heart Catheterization Parameters in Patients with HFrEF”.  
Role: Statistician/Data Scientist

## **JOURNAL/TEXTBOOK REVIEWS**

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- Journal of Statistics Education  
Reviewed manuscript title: “Time to Value Variation in Statistics Curricula”  
Date of review: January 2020
- Journal of the American Statistical Association (JASA)  
Associate Editor: October 2019 to present  
Reviewed manuscript title: “On the nineteenth-century origins of significance testing and *p*-hacking”  
Date of review: September 2020.
- The American Statistician (TAS)  
Associate Editor: October 2019 to present
- JASA/TAS textbook reviewer  
Associate Editor: October 2019 to present