

# KAITLYN G. FITZGERALD

October 2023

Department of Mathematics, Physics, & Statistics  
Azusa Pacific University

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## APPOINTMENTS

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2021 – **Assistant Professor**, Department of Mathematics, Physics, & Statistics,  
Azusa Pacific University, Azusa, CA

## EDUCATION

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2021 **Ph.D. Statistics**, Northwestern University, Evanston, IL  
Dissertation: *Methods for Synthesizing and Translating Statistical Evidence in Education*  
Committee: Elizabeth Tipton (*chair*), Larry Hedges, Steven Franconeri  
Certificate in Teaching, Searle Center for Advancing Learning & Teaching

2018 **M.S. Statistics**, Northwestern University, Evanston, IL

2015 **B.S. Mathematics**, Olivet Nazarene University, Bourbonnais, IL  
*Summa cum laude*, University Honors Program Graduate

## FELLOWSHIPS, HONORS & AWARDS

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2023 – 2024 Faculty Fellow, Jr. Faculty Mentoring Program, Azusa Pacific University

2022 – 2023 Project NExT Fellow, Mathematical Association of America

2021 Young Alumni Award, Olivet Nazarene University

2020 – 2021;  
2016 – 2017 University Fellowship, Northwestern University

2017 – 2020 Multi-disciplinary Program in Education Sciences (MPES) Fellowship,  
U.S. Department of Education, Institute of Education Sciences.

2015 Award for Excellence and Meritorious Work in Mathematics,  
Olivet Nazarene University (*top departmental award*)

## GRANT FUNDING

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2023 – 2025 **Co-Principal Investigator**, HSI Pilot Project: Impact of Learning Assistants on  
STEM Identity for Students Historically Underrepresented in STEM. National  
Science Foundation, with Bradley McCoy (PI) and Elijah Roth (Co-PI). Award  
Number: 2247670. Funding: \$199,991.

2023 – 2024      **Principal Investigator**, Statistical cognition and visualization of meta-analytic data for education research. Faculty Research Council Grant, Azusa Pacific University. Funding: \$6,000.

## TEACHING

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**Azusa Pacific University**, Department of Mathematics, Physics, & Statistics

2021 -      Courses taught:

MATH 130: Introduction to Statistics (*F21, S22, F22, S23, F23*)

MATH 250: Data Analysis (*F22, F23*)

MATH 350: Statistical Models (*S24*)

MATH 361: Probability & Statistics I (*F21, S22, S23, S24*)

MATH 362: Mathematical Statistics (*F22*)

PRMA 130: Introduction to Statistics (*F21, F23*)

STAT 511: Applied Regression Analysis (*S22, S23*)

STAT 551: Data Visualization (*S24*)

**Northwestern University**

2018 – 2020      **Instructor & Course Designer**, Northwestern Prison Education Program, Cook County Department of Corrections

Introduction to Social Statistics and Data Literacy (*Summer 2019*)

**Curriculum Development Graduate Assistant**, Department of Statistics

STAT 202: Introduction to Statistics (*Summer, Fall 2019*)

**Coordinated Learning Team (CLT) Instructor**, Department of Athletics

MATH 220: Differential Calculus of One Variable Functions (*Winter 2019*)

PSYCH 201: Statistical Methods in Psychology (*Summer 2019*)

STAT 202: Introduction to Statistics (*Winter, Spring, Summer 2019*)

**Teaching Assistant**, Department of Statistics

STAT 202: Introduction to Statistics (*Fall 2019*)

STAT 330: Applied Statistics for Research (*Fall 2018*)

## PUBLICATIONS

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2023      **Fitzgerald, K.G.**, & Tipton, E. A knowledge mobilization framework: Towards more evidence-based statistical communication practices in education research. *Journal for Research on Educational Effectiveness*.  
<https://doi.org/10.1080/19345747.2023.2209082>

2022      **Fitzgerald, K.G.**, & Tipton, E. The Meta-Analytic Rain Cloud Plot: A New Approach to Visualizing Clearinghouse Data. *Journal for Research on Educational Effectiveness*, 15:4, 848-875

- 2021 Schauer, J.M., **Fitzgerald, K.G.**, Peko-Spicer, S., Whalen, M.C.R., Zejnullahi, R., & Hedges, L.V. An evaluation of statistical methods for aggregate patterns of replication failure. *Annals of Applied Statistics*, 15(1), 208-229.
- 2020 Tipton, E., Spybrook, J., **Fitzgerald, K.G.**, Wang, Q., Davidson, C. Towards a System of Evidence for All: Current Practices and Future Opportunities in 37 Randomized Trials. *Educational Researcher*, 50(3), 145 – 156.
- 2019 Miller, J.D., **Fitzgerald, K.G.**, Smith, A.L., & Young, S.L. Geophagy among a cohort of Kenyan women with mixed HIV status: a longitudinal analysis. *American Journal of Tropical Medicine & Hygiene*, 101(3), 654 – 660.

### WORKING PAPERS AND BOOKS

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- 2022 **Fitzgerald, K.G.** Using Extant Data to Improve Estimation of the Standardized Mean Difference. Revise & resubmit.
- 2019 Ismay, C., Kim, A.Y., Kuyper, A.M., Tipton, E. & **Fitzgerald, K.G.** Introduction to Statistics and Data Science: A modern dive into R and the tidyverse. <https://nustat.github.io/intro-stat-ds/>

### CONFERENCE PRESENTATIONS & INVITED TALKS

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- 2023 **Fitzgerald, K.G.** Data visualizations, optical illusions, and the curse of expertise. Azusa Pacific University, Department of Mathematics, Physics, & Statistics research seminar, November, 2023.
- 2023 **Fitzgerald, K.G.** & Tipton, E. Knowledge Mobilization & Evidence-Based Statistical Communication Practices. Oral presentation at Women in Statistics & Data Science annual conference, Bellevue, WA, October, 2023.
- 2023 **Fitzgerald, K.G.** & Tipton, E. A knowledge mobilization framework: Towards more evidence-based statistical communication practices in education research. Oral presentation at Society for Research on Educational Effectiveness (SREE) annual conference, Arlington, VA, September 2023.
- 2023 **Fitzgerald, K.G.** Data visualization activities to illuminate cognitive pitfalls and help students become better communicators of data. Oral presentation at MathFest, Tampa, FL, August 2023.
- 2022 **Fitzgerald, K.G.** & Tipton, E. The Meta-Analytic Rain Cloud Plot: A New Approach to Visualizing Clearinghouse Data. Paper presentation at Society for Research Synthesis Methodology Annual Meeting, Portland, OR, July 2022.

- 2022                    **Fitzgerald, K.G.** Data visualization tips and tricks: Teaching and learning how to be better communicators of data. Oral presentation at Association of Christians in the Mathematical Sciences bi-annual conference, Azusa Pacific University, June 2022.
- 2021                    **Fitzgerald, K.G.** How statistics helps us be better stewards of information: Applications from social policy & global development. Invited talk at Olivet Nazarene University, Department of Mathematics, October 2021.
- 2021                    **Fitzgerald, K.G.** Effective communication of meta-analytic data in education: Evidence from a statistical cognition experiment on data visualizations. Poster presentation at STEM Research Symposium, Azusa Pacific University, October 2021.
- 2021                    **Fitzgerald, K.G.** & Tipton, E. Communicating clearinghouse data: A statistical cognition experiment on education practitioners' understanding of forest plots. Paper presentation at the Society for Research on Educational Effectiveness (SREE) annual conference, virtual, September 2021.
- 2020                    Hill, A., Kolak, M., **Fitzgerald, K.** InspiRing InstRuction: A panel on teaching #rstats for all audiences. Invited panelist, R-Ladies Chicago event, November 2020.
- 2020                    **Fitzgerald, K.** Adjusting standard deviations for homogeneity of samples. Poster presentation at the Society for Research on Educational Effectiveness (SREE) annual conference, March 2020. (Canceled due to COVID-19).
- 2019                    **Fitzgerald, K.** What are we 95% confident about anyway? A software-embedded curriculum for learning statistical inference. Presentation at Association of Christians in the Mathematical Sciences bi-annual conference, Indiana Wesleyan University, May 2019.
- 2018                    **Fitzgerald, K.** Statistics for Social Good: Why your math degree is in demand in social policy and international development. Invited talk at Olivet Nazarene University, Department of Mathematics, October 2018.
- 2018                    Blaushild, N., **Fitzgerald, K.**, & Kamel, A. Does AIT improve student outcomes? An analysis of referrals, attendance, and grades. Presented to stakeholders at Evanston Township High School, May 2018.

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## MENTORING & ADVISING

- 2022 –                    **Undergraduate Research Mentor**, Azusa Pacific University

*Summer – Fall 2023 Project (2 students):* Statistical cognition and visualization of meta-analytic data for education research. Conference presentations:

Charles, A., Khella, D., Fitzgerald K.G. Effective data visualizations for large meta-analyses: Evidence from a statistical cognition experiment. STEM Research Symposium, Azusa Pacific University, September 2023.

Charles, A., Khella, D., Fitzgerald K.G. Effective data visualizations for large meta-analyses: Evidence from a statistical cognition experiment. Poster presentation at the Electronic Undergraduate Statistics Research annual conference, Consortium for Undergraduate Statistics Education, November 2023.

*Fall 2022 – Spring 2023 Project (2 students):* APU STEM Retention & Student Performance. Conference presentations:

dePillis-Lindheim, A., Gottry, E., **Fitzgerald, K.** STEM Retention and Academic Learning Communities. Poster presentation at Mathematical Association of America SoCal-Nev Section Meeting, University of La Verne, April 2023.

dePillis-Lindheim, A., Gottry, E., **Fitzgerald, K.** Analysis of STEM Retention and Gatekeeping Introductory Courses. Poster presentation at The Undergraduate Student Project Competition, Consortium for Undergraduate Statistics Education, November 2022.

2021 – **Learning Assistant Mentor**, Azusa Pacific University

2020 – 2021 **Graduate Teaching Mentor**, Teaching Certificate Program, Northwestern University Searle Center for Advancing Learning and Teaching

2019 – 2020 **AP Research Expert Advisor**, James B. Conant High School

## **RESEARCH & CONSULTING**

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2019 – 2021 **Lab member**, Statistics for Evidence-Based Policy and Practice (STEPP) Center, Northwestern University

2019 **Graduate Assistant**, Meta-Analysis Training Institute, Loyola University

2018 – 2019	<b>Consultant / Facilitator</b> , IES Summer Training Institute: Cluster Randomized Trials, Northwestern University
2018 – 2019	<b>Statistical Consultant</b> , Young Research Group, Northwestern University
2017 – 2021	<b>Graduate Research Assistant</b> , Institute for Policy Research, Northwestern University
2015 – 2016	<b>Research Analyst</b> , Barna Group, Ventura, CA

## **LEADERSHIP & SERVICE**

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### **University Leadership & Service**

2022 -	<b>General Education Assessment Committee</b> , Azusa Pacific University
2022 – 2023	<b>Faculty Learning Community: Faith Integration &amp; Race/Ethnicity</b> , Azusa Pacific University

### **Departmental Leadership & Service**

2022 -	<b>Data Science Minor Coordinator</b> , Azusa Pacific University
2021 -	<b>Introduction to Statistics Coordinator</b> , Azusa Pacific University
2022 – 2023	<b>Math &amp; Physics Fellowship Task Force</b> , Azusa Pacific University
2022 – 2023	<b>Recruitment Task Force</b> , Azusa Pacific University
2019 – 2020	<b>Speaker Series Coordinator</b> , STEPP Center, Northwestern University

### **Referee service**

Journals:	<i>Journal of the Association of Christians in the Mathematical Sciences</i> <i>Journal of Research on Educational Effectiveness</i> <i>Journal of Statistics and Data Science Education</i> <i>Problems, Resources, and Issues in Mathematics Undergraduate Studies</i>
Conferences:	<i>Association of Christians in the Mathematical Sciences</i> <i>Research Methods Section, Society for Research on Educational Effectiveness</i>

### **Professional Society Membership**

American Statistical Association (ASA)  
 Association of Christians in the Mathematical Sciences (ACMS)  
 Mathematical Association of America (MAA)  
 Society for Research on Educational Effectiveness (SREE)  
 Society for Research Synthesis Methodology (SRSM)

### **Volunteer mentoring, judging, & consulting**

2023	<b>Judge</b> , Association of Christian Schools International (ACSI) virtual middle
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school science fair  
2022, 2023 **Judge**, Undergraduate Student Project Competition (USPROC),  
Consortium for the Advancement of Undergraduate Statistics Education  
(CAUSE) & The American Statistical Association (ASA)  
2022 **Judge**, STEM Research Symposium, Azusa Pacific University  
2020 – 2021 **Correspondence Tutor**, Northwestern Prison Education Program  
2018 **Volunteer Statistical Consultant**, First Presbyterian Church of Evanston

**Community Leadership & Service**

2023 – **Usher & Greeter**, Church of the Resurrection Los Angeles  
2018 – 2020 **Small Group Leader**, NU Graduate Christian Fellowship  
2017 – 2019 **Small Group Coordinator**, NU Graduate Christian Fellowship  
2019 **Stewardship Task Force**, First Presbyterian Church of Evanston  
2018 **Panelist**, InterVarsity Ethnic Reconciliation and Justice National Consultation,  
University of Chicago, May 2018