KAITLYN G. FITZGERALD

August 2025

Department of Mathematics & Statistics
Villanova University
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APPOINTMENTS

2025 -	**Assistant Professor,** Department of Mathematics & Statistics, Villanova University, Villanova, PA
2021 – 2025	**Assistant Professor,** Department of Mathematics, Physics, & Statistics, Azusa Pacific University, Azusa, CA

EDUCATION

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

2023	Dex Whittinghill III Award for the Best Contributed Paper on Statistics and Data Science Education, Mathematical Association of America, MathFest
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*)

TEACHING

Villanova University, Department of Mathematics & Statistics
2025 -   Courses taught:
    STAT 5700: Probability *(F25)*
    STAT 7500: Statistical Programming *(F25)*

Azusa Pacific University, Department of Mathematics, Physics, & Statistics
2021 - 2025   Courses taught:
    MATH 130: Introduction to Statistics *(F21, S22, F22, S23, F23, F24, S25)*
    MATH 250: Data Analysis *(F22, F23, F24)*
    MATH 350: Statistical Models (S24)
    MATH 361: Probability & Statistics I *(F21, S22, S23, S24, S25)*
    MATH 362: Mathematical Statistics *(F22)*
    PRMA 130: Introduction to Statistics *(F21, F23)*
    STAT 511: Applied Regression Analysis *(S22, S23)*
    STAT 551: Data Visualization (S24, S25)

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)*

GRANT FUNDING

External Grants

2024 - 2027   **Co-Principal Investigator,** Developing and evaluating tools for communicating
    statistical evidence to education decision-makers. Institute of Education
    Sciences, with Elizabeth Tipton (PI, Northwestern University) and Alexander
    Kale (Co-PI, University of Chicago). Award Number: R305D240023. Funding:
    $899,973.

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.

Internal Grants

2024   **Co-Principal Investigator,** NSF IUSE HSI Planning Grant: Impact of Learning Assistants on STEM Identity for Students Historically Underrepresented in STEM. Faculty Research Council Planning Grant, Azusa Pacific University, with Bradley McCoy (PI) and Elijah Roth (Co-PI). Funding: $3,687.

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.

PUBLICATIONS

2025   **Fitzgerald, K.G.**, **Khella, D., *Charles, A.*, & Tipton, E. Meta-Analytic Rain Cloud Plots: Improving Evidence Communication Through Data Visualization Design Principles. *Research Synthesis Methods.* https://doi.org/10.1017/rsm.2025.4

2024   **Fitzgerald, K.G**. & Tipton, E. Using Extant Data to Improve Estimation of the Standardized Mean Difference. *Journal of Educational and Behavioral Statistics.* https://doi.org/10.3102/10769986241238478

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

2024   **Fitzgerald, K.G.,** *Gurrola, J., *Hsieh, J., & *Tran, T*. SCORE Module: What's the prime age of an MLB baseball player? Under review.

2024   **Fitzgerald, K.G.,** *Gurrola, J., *Hsieh, J., & *Tran, T*. SCORE Module: Volleyball NCAA Division I. Under review.

2019   Ismay, C., Kim, A.Y., Kuyper, A.M., Tipton, E. & **Fitzgerald, K.G.** Introduction to Statistics and Data Science: A moderndive into R and the tidyverse. https://nustat.github.io/intro-stat-ds/

PRESENTATIONS
Conference Presentations (Refereed)

2025   **Fitzgerald, K.G.,** *Knee, E., *Walker, C., *Dupont, K., Roth, E., McCoy, B. Learning Assistants: A useful model of student support and curricular change in statistics classrooms. Poster presentation at the United States Conference on Teaching Statistics, Ames, IA, July 2025.

2024   **Fitzgerald, K.G**., Glebova, O., & Obeling, A. Inquiry Based Learning / POGIL Activities for Teaching Bayesian Statistics. Oral presentation at the Joint Statistical Meetings, Portland, OR, August 2024.

2024   **Fitzgerald, K.G.** & Tipton, E. Synthesis of sample variance estimates to improve estimation of the standardized mean difference. Oral presentation at Society for Research Synthesis Methods annual meeting, Amsterdam, Netherlands, June 2024.

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. *Won Dex Whittinghill III Award for the Best Contributed Paper on Statistics and Data Science Education*.

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.** & 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   **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.

Invited Talks, Panels, & Lectures (External)

2024   Gould, R., **Fitzgerald, K**. Flores, A., & Jaynes, J. What's next at four-year institutions? Invited panelist, Electronic Conference on Teaching Statistics, University of California Irvine, June 2024.

2024   **Fitzgerald, K.G.** Knowledge mobilization and evidence communication: lessons learned. Invited talk, HEDCO Institute for Evidence-Based Educational Practice, University of Oregon, February 2024.

2024   **Fitzgerald, K.G.** Data visualization for meta-analysis. Invited lecture, Northwestern University, STAT 439: Meta-analysis, February 2024.

2023   **Fitzgerald, K.G.** Knowledge mobilization and lessons for communicating meta-analytic results. Invited talk, American Educational Research Association (AERA) Systematic Review & Meta-Analysis Special Interest Group (SRMA SIG), December 2023.

2021   **Fitzgerald, K.** Young Alumni Award Recipient Address, Presidential Prayer

Breakfast, Olivet Nazarene University, October 2021.

2021   **Fitzgerald, K.G.** How statistics helps us be better stewards of information: Applications from social policy & global development. Invited talk, Olivet Nazarene University, Department of Mathematics, October 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.

2018   **Fitzgerald, K.** Statistics for Social Good: Why your math degree is in demand

in social policy and international development. Invited talk, Olivet Nazarene University, Department of Mathematics, October 2018.

Internal / Other Presentations

2024   **Fitzgerald, K.G.** Workshop on Culturally Responsive Pedagogy. Department of Computer Science, Engineering, Mathematics, Physics, & Statistics, Azusa Pacific University, November 2024.

2024   **Fitzgerald, K.G.** Data visualization activities to illuminate cognitive pitfalls and enhance students' data communication. Invited talk, Azusa Pacific University, College of Liberal Arts & Sciences Scholarship Jubilee, April 2024.

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.

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.

MENTORING & ADVISING

2022 – 2025   **Undergraduate Research Mentor**, Azusa Pacific University (APU)

Spring – Summer 2025 (2 students): Developing and evaluating tools for communicating statistical evidence to education decision-makers.

Summer 2024, 2025 (2 students): Impact of Learning Assistants on STEM Identity for Students Historically Underrepresented in STEM.

- Poster presentation by Evan Knee & Caylee Walker, APU STEM Research Symposium, September 2024.
- Poster presentation by Evan Knee & Caylee Walker, MAA SoCal Section Meeting, March 2025.

Summer 2024, 2025 (6 students): Sports Content for Outreach, Research, and Education (SCORE) in data science.

- Two poster presentations by Joseph Hsieh & Jazmine Gurrola at APU STEM Research Symposium, September 2024

- Two poster presentations by Joseph Hsieh[*] & Jazmine Gurrola[†] at Annual Biomedical Conference for Minoritized Students (ABRCMS), Pittsburgh, PA, November 2024

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

- Oral presentation by David Khella[†] at Joint Statistical Meetings, Portland, OR, August 2024.

- Panel presentation by Avery Charles at APU Board of Trustees Dinner, November 2023.

- Poster presentation by Avery Charles & David Khella at APU STEM Research Symposium, September 2023.

- Poster presentation by Avery Charles & David Khella 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.

- Poster presentation by Alex dePillis-Lindheim and Emily Gottry at Mathematical Association of America SoCal-Nev Section Meeting, University of La Verne, April 2023.
- Oral presentation by Alex dePillis-Lindheim and Emily Gottry to APU stakeholders (faculty & dean), December 2022.
- Poster presentation by Alex dePillis-Lindheim and Emily Gottry at The Undergraduate Student Project Competition, Consortium for Undergraduate Statistics Education, November 2022.

2021 – **Learning Assistant Mentor**, Azusa Pacific University
Introduction to Statistics (*6 LAs; F21, F22, S23, F23, F24*)
Introduction to Modeling with Probability (*2 LAs; S24, S25*)

2023 – 2024 **Capstone Thesis Advisor**, Valor Christian High School. Topic: Meta-analysis of effectiveness of fetal endoscopic tracheal occlusion in treating severe and moderate cognitive diaphragmatic hernias.

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[*] Student received competitive external travel award to present

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

2024 – 2025   **Project Lead,** Sports Content for Outreach, Research, and Education in data science, Azusa Pacific University hub. Sub-contract of NSF grant number 2142705 awarded to Carnegie Mellon University and Baylor University.

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   **Consultant / Facilitator**, IES Summer Training Institute: Cluster Randomized Trials, Northwestern University

2018 – 2019   **Statistical Consultant,** Young Research Group, Northwestern University

2017 – 2021   **Graduate Research Assistant,** Institute for Policy Research, Northwestern University

2015 – 2016   **Research Analyst,** Barna Group, Ventura, CA

LEADERSHIP & SERVICE

University Leadership & Service

2024 – 2025   **Diversity Council**, Azusa Pacific University
2024 – 2025   **General Education Council,** Azusa Pacific University
2024   **General Education Course Development Team**, Azusa Pacific University
2023 – 2024   **GE Course (Re-)Development Fellowship on Culturally Responsive Pedagogy**, Azusa Pacific University
2023   **Invited panelist**, Board of Trustees Dinner on R2 status and faculty research, Azusa Pacific University, October 2023
2022 – 2023   **General Education Assessment Committee**, Azusa Pacific University
2022 – 2023   **Faculty Learning Community: Faith Integration & Race/Ethnicity**, Azusa Pacific University

Departmental Leadership & Service

2024 - 2025   **Curriculum Working Group, Mathematics Coordinator,** APU
2022 - 2025   **Data Science Minor Coordinator**, Azusa Pacific University
2021 - 2025   **Introduction to Statistics Coordinator**, Azusa Pacific University

2022 – 2023	**Math & Physics Fellowship Task Force**, Azusa Pacific University
2022 – 2023	**Recruitment Task Force**, Azusa Pacific University
2019 – 2020	**Speaker Series Coordinator**, STEPP Center, Northwestern University

Referee service

Journals:	*Journal of the Association of Christians in the Mathematical Sciences*
	Journal of Research on Educational Effectiveness
	Journal of Statistics and Data Science Education
	Learning and Instruction
	Problems, Resources, and Issues in Mathematics Undergraduate Studies
Conferences:	*Association of Christians in the Mathematical Sciences*
	Research Methods Section, Society for Research on Educational Effectiveness
Funders:	*National Science Foundation, ECR*
Other:	*SCORE Network (Sports Content for Outreach, Research, and Education for data science)*
	Policy Advice and Policy Making in Education: Perspectives on Past and Present Procedures (book)

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 judging & consulting

2024	**Judge,** Annual Biomedical Research Conference for Minoritized Students
2023	**Judge,** Association of Christian Schools International (ACSI) virtual middle school science fair
2022 - 2024	**Judge**, STEM Research Symposium, Azusa Pacific University
2022, 2023	**Judge**, Undergraduate Student Project Competition (USPROC), Consortium for the Advancement of Undergraduate Statistics Education (CAUSE) & The American Statistical Association (ASA)
2018	**Volunteer Statistical Consultant,** First Presbyterian Church of Evanston

Community Leadership & Service

2023 – 2025   **Usher & Greeter,** Church of the Resurrection Los Angeles

2022 – 2025   **Homeless Count Volunteer,** Los Angeles Homeless Services Authority

2020 – 2021   **Correspondence Tutor,** Northwestern Prison Education Program

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