KAITLYN G. FITZGERALD
January 2026

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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;   University Fellowship, Northwestern University
2016 – 2017

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

TEACHING

Villanova University, Department of Mathematics & Statistics
2025 -   Courses taught:
STAT 4380: Data Science (S26)
STAT 5700: Probability *(F25, S26)*
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

2025   Faculty Research & Development Grant, Villanova University, College of Liberal Arts & Sciences. Travel to present research at International Conference on Teaching Statistics. Funding: $3,500.

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.

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* denotes student co-author

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

2026	**Fitzgerald, K.G.,** **Gurrola, J., *Hsieh, J., & *Tran, T*. SCORE Module: What's the prime age of an MLB baseball player? Conditional acceptance.
2026	**Fitzgerald, K.G.,** **Gurrola, J., *Hsieh, J., & *Tran, T*. SCORE Module: Volleyball NCAA Division I. Conditional acceptance.
2026	**Fitzgerald, K.G.,** Roth, E., McCoy, B., **Knee, E., *Walker, C., *Knee, K.* Learning Assistants as a pedagogical model to improve teaching practices and student outcomes in post-secondary statistics classrooms. Under Review.
2026	Arvidson, M., Conner, Z, Friedman, J. & **Fitzgerald, K.G.** Attitudes and Beliefs of Pre-service Teachers of Elementary Mathematics. 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

2025   **Co-MaSTeR Research Mentor**, Villanova University
Fall – Spring 2026 (2 undergraduates + 1 graduate student): Designing & Implementing Randomized Survey Experiments to Evaluate Data Visualizations

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.
- Two poster presentations by Grace Nguyen & Madey Sule at Annual Biomedical Conference for Minoritized Students (ABRCMS), San Antonio, TX, November 2025.

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.

[†] Student received competitive external travel award to present

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.
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

Departmental Leadership & Service

2025 -	**UNITAS: Inclusive Education Committee**, Villanova
2025 -	**DataFest Philly Committee**, Villanova
2025 -	**Center for Statistics and Data Science Education Committee**, Villanova
2025 -	**Applied Statistics and Data Sciences Graduate Committee**, Villanova
2025 – 2026	**Statistics Retreat Committee**, Villanova
2025 - 2026	**Search Committee**, Continuing non-tenure track positions in Mathematics & Statistics, Villanova
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

University Leadership & Service

2026	**Falvey Data Visualization Competition, Judge**, Villanova Univeristy
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

Referee service

Journals:	*British Journal of Educational Psychology*
	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)

Volunteer judging & consulting

2024 - 2025	**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

Other Service to the Profession

2025 -   ASA Section for Statistics and Data Science Education Mentoring Committee

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)

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