

# KAITLYN G. FITZGERALD

February 2026

Department of Mathematics & Statistics  
Villanova University  
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## APPOINTMENTS

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- 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

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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 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

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### **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

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### *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**

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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

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\* denotes student co-author

- 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.

### OPEN EDUCATIONAL RESOURCES DEVELOPED

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- 2026 **Fitzgerald, K.G.**, \*Gurrola, J., \*Hsieh, J., & \*Tran, T. What's the prime age of an MLB baseball player? [SCORE Module](#), peer reviewed.
- 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/>

### WORKING PAPERS

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- 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.

### PRESENTATIONS

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#### 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., & Ebeling, 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)***

- 2026            **Fitzgerald, K.G.**, Data Visualization for Social Impact: Becoming Good Stewards of Information. Invited keynote, Harvey Mudd College, Data Science for Social Impact Datathon.
- 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

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- 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<sup>†</sup> & Jazmine Gurrola<sup>†</sup> 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.

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<sup>†</sup> Student received competitive external travel award to present



- Oral presentation by David Khella<sup>†</sup> 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.

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| 2021 – 2025 | <b>Learning Assistant Mentor</b> , Azusa Pacific University<br>Introduction to Statistics (6 LAs; F21, F22, S23, F23, F24)<br>Introduction to Modeling with Probability (2 LAs; S24, S25)                   |
| 2023 – 2024 | <b>Capstone Thesis Advisor</b> , Valor Christian High School. Topic: Meta-analysis of effectiveness of fetal endoscopic tracheal occlusion in treating severe and moderate cognitive diaphragmatic hernias. |
| 2020 – 2021 | <b>Graduate Teaching Mentor</b> , Teaching Certificate Program, Northwestern University Searle Center for Advancing Learning and Teaching   |
| 2019 – 2020 | <b>AP Research Expert Advisor</b> , James B. Conant High School   |

## RESEARCH & CONSULTING

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| 2024 – 2025 | <b>Project Lead</b> , 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 | <b>Lab member</b> , Statistics for Evidence-Based Policy and Practice (STEPP) Center, Northwestern University   |

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| 2019        | <b>Graduate Assistant</b> , 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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### Departmental Leadership & Service

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| 2025 -      | <b>UNITAS: Inclusive Education Committee</b> , Villanova   |
| 2025 -      | <b>DataFest Philly Committee</b> , Villanova   |
| 2025 -      | <b>Center for Statistics and Data Science Education Committee</b> , Villanova                          |
| 2025 -      | <b>Applied Statistics and Data Sciences Graduate Committee</b> , Villanova                             |
| 2025 – 2026 | <b>Statistics Retreat Committee</b> , Villanova  |
| 2025 - 2026 | <b>Search Committee</b> , Continuing non-tenure track positions in Mathematics & Statistics, Villanova |
| 2024 - 2025 | <b>Curriculum Working Group, Mathematics Coordinator</b> , APU   |
| 2022 - 2025 | <b>Data Science Minor Coordinator</b> , Azusa Pacific University                                       |
| 2021 - 2025 | <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                              |

### University Leadership & Service

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| 2026        | <b>Falvey Data Visualization Competition, Judge</b> , Villanova University   |
| 2024 – 2025 | <b>Diversity Council</b> , Azusa Pacific University  |
| 2024 – 2025 | <b>General Education Council</b> , Azusa Pacific University  |
| 2024        | <b>General Education Course Development Team</b> , Azusa Pacific University  |
| 2023 – 2024 | <b>GE Course (Re-)Development Fellowship on Culturally Responsive Pedagogy</b> , Azusa Pacific University                    |
| 2023        | <b>Invited panelist</b> , Board of Trustees Dinner on R2 status and faculty research, Azusa Pacific University, October 2023 |
| 2022 – 2023 | <b>General Education Assessment Committee</b> , Azusa Pacific University   |
| 2022 – 2023 | <b>Faculty Learning Community: Faith Integration &amp; Race/Ethnicity</b> , Azusa Pacific University                         |

**Referee service**

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| Journals:    | <i>British Journal of Educational Psychology</i><br><i>Association of Christians in the Mathematical Sciences, Conference proceedings</i><br><i>International Conference on Teaching Statistics, Conference proceedings</i><br><i>Journal of Research on Educational Effectiveness</i><br><i>Journal of Statistics and Data Science Education</i><br><i>Learning and Instruction</i><br><i>Problems, Resources, and Issues in Mathematics Undergraduate Studies</i> |
| Conferences: | <i>Annual Biomedical Research Conference for Minoritized Students</i><br><i>Association of Christians in the Mathematical Sciences</i><br><i>Research Methods Section, Society for Research on Educational Effectiveness</i>  |
| Funders:     | <i>National Science Foundation, ECR</i>   |
| Other:       | <i>SCORE Network (Sports Content for Outreach, Research, and Education for data science)</i><br><i>Advising on and Making Education Policy: New Perspectives on Past and Present Procedures (book chapter)</i>  |

**Volunteer judging & consulting**

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| 2026             | <b>Judge</b> , CAUSE Data Scrollytelling Competition   |
| 2024 - 2025      | <b>Judge</b> , Annual Biomedical Research Conference for Minoritized Students  |
| 2023             | <b>Judge</b> , Association of Christian Schools International (ACSI) virtual middle school science fair  |
| 2022 - 2024      | <b>Judge</b> , STEM Research Symposium, Azusa Pacific University   |
| 2022, 2023, 2025 | <b>Judge</b> , Undergraduate Student Project Competition (USPROC), Consortium for the Advancement of Undergraduate Statistics Education (CAUSE) & The American Statistical Association (ASA) |
| 2018             | <b>Volunteer Statistical Consultant</b> , First Presbyterian Church of Evanston  |

**Other Service to the Profession**

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

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| 2023 – 2025 | <b>Usher &amp; Greeter</b> , Church of the Resurrection Los Angeles       |
| 2022 – 2025 | <b>Homeless Count Volunteer</b> , Los Angeles Homeless Services Authority |
| 2020 – 2021 | <b>Correspondence Tutor</b> , Northwestern Prison Education Program       |

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| 2018 – 2020 | <b>Small Group Leader</b> , NU Graduate Christian Fellowship  |
| 2017 – 2019 | <b>Small Group Coordinator</b> , NU Graduate Christian Fellowship   |
| 2019        | <b>Stewardship Task Force</b> , First Presbyterian Church of Evanston   |
| 2018        | <b>Panelist</b> , InterVarsity Ethnic Reconciliation and Justice National Consultation, University of Chicago, May 2018 |