

# AMELIA A. MCNAMARA

OSS 407 • University of St Thomas • St Paul, MN 55105  
amelia.mcnamara@stthomas.edu • www.amelia.mn • @AmeliaMN

## RESEARCH INTERESTS

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Statistical computing, statistics education, data science education, data visualization, reproducible research, spatial statistics.

## EDUCATION

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**Ph.D., Statistics** 2015  
**University of California - Los Angeles** Los Angeles, CA  
Dissertation: Bridging the Gap Between Tools for Learning and for Doing Statistics  
Committee: Robert Gould and Fredrick Paik Schoenberg (co-chairs, statistics), Mark Handcock (statistics), Todd Millstein (computer science), Alan Kay (computer science).  
**B.A., Mathematics and English** 2010  
**Macalester College** St. Paul, MN

## ACADEMIC APPOINTMENTS

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**Associate Professor** 2023-present  
**Assistant Professor** 2018-2023  
University of St Thomas Department of Computer & Information Sciences St Paul, MN  
**Visiting Assistant Professor** 2015-2018  
Smith College Program in Statistical and Data Science Northampton, MA  
*MassMutual Faculty Fellow*

## CERTIFICATIONS

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**RStudio Certified Trainer** RStudio September 2019  
Tidyverse instructor certified.  
**Carpentries Certified Instructor** The Carpentries September 2019  
Certified to teach Software Carpentry, Library Carpentry, and Data Carpentry.

## PEER-REVIEWED PUBLICATIONS

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**McNamara, A.** (2023). **The impact (or lack thereof) of analysis choice on conclusions with Likert data from the Many Analysts Religion Project.** *Religion, Brain & Behavior*, 13(3), 324-326. DOI:10.1080/2153599X.2022.2070256

Hoogeveen, S., Sarafoglou, A., van Elk, M., Wagenmakers, E-J., [249 additional coauthors, including **McNamara, A.**]. (2023). **A Many-Analysts Approach to the Relation Between Religiosity and Well-being.** *Religion, Brain & Behavior*, 13(3), 237-283. DOI:10.1080/2153599X.2022.2070255

Abdel-Ghani, A. <sup>1</sup>, Bodwin, K., **McNamara, A.**, Theobald, A., and Flores Siaca, I (2022). **"Looks okay to me": A study of best practice in data analysis code review.** *International Conference on Teaching Statistics (ICOTS-11)*. DOI:10.52041/iase.icots11.T8I1

Çetinkaya-Rundel, M., Hardin, J., Baumer, B., **McNamara, A.**, Horton, N., and Rundel, C. (2022). **An educator's perspective of the tidyverse.** *Technology Innovations in Statistics Education*. 14(1). DOI:10.5070/T514154352

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<sup>1</sup>Student coauthor

Schweinberg, M., Feldman, M., Staub, N., [175 additional coauthors, including **McNamara, A.**], Uhlman, E. L. (2021). **Same data, different conclusions: Radical dispersion in empirical results when independent analysts operationalize and test the same hypothesis.** *Organizational Behavior and Human Decision Processes*. 165, 228-249. DOI:10.1016/J.OBHDP.2021.02.003

**McNamara, A.** (2019). **Key Attributes of a Modern Statistical Computing Tool.** *The American Statistician*. (73)4, 375-385. DOI:10.1080/00031305.2018.1482784

**McNamara, A.** (2019). **Community Engagement and Subgroup Meta-Knowledge: Some Factors in the Soul of a Community.** *Computational Statistics*. 34(4), 1511-1535. DOI:10.1007/S00180-019-00879-X

Rafalski, T., Uesback, P. M., Panks-Meloney, C., Daleiden, P., Allee, W., **McNamara, A.** and Stefik, A. (2019). **A Randomized Controlled Trial on the Wild Wild West of Scientific Computing with Student Learners.** In *Proceedings of the 2019 ACM Conference on International Computing Education Research* (pp. 239-247). DOI:10.1145/3291279.3339421

Gould, R., Wild, C. J., Baglin, J., **McNamara, A.**, Ridgway, J., McConway, K. (2018). “**Revolutions in Teaching and Learning Statistics: A Collection of Reflections**” in *Springer International Handbook of Research in Statistics Education* (Ben-Zvi, D., Makar, K., eds), Springer International Handbook of Education series, 457-472. DOI:10.1007/978-3-319-66195-7\_15

**McNamara, A.**, and Horton, N. J. (2018). **Wrangling Categorical Data in R.** Special issue, jointly published in Practical Data Science for Stats, *PeerJ Preprint* Collection, 5:e3163v2 and *The American Statistician*. 72(1), 97-104. DOI:10.1080/00031305.2017.1356375

Catllá, A.J., **McNamara, A.** and Topaz, C. M. (2012). **Instabilities and Patterns in Coupled Reaction-Diffusion Layers.** *Physical Review E*, 85(2), 026215. DOI:10.1103/PhysRevE.85.026215

## OTHER WRITING

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**McNamara, A.** (2023). **Data Feminism** (book review). *Design and Culture*, 15(3). DOI:10.1080/17547075.2022.2038975

Wacharamanotham, C., Jansen, Y., **McNamara, A.**, Hornbæk, K., Robertson, J., and Goswami, L. (2022). **Transparent Quantitative Research as a User Interface Problem.** Report from Dagstuhl Seminar 22392. DOI:10.4230/DagRep.12.9.220

Neuzil, M., and **McNamara, A.** (2022). **Teaching to the image: Helping student journalists visualize environmental stories in a climate change world.** *Journalism Education*, 11(1). <https://journalism-education.org/2022/10/teaching-to-the-image-helping-student-journalists-vis>

**McNamara, A.** (24 March, 2021). **Data visualisation by hand: drawing data for your next story** (blog post, DataJournalism.com). <https://datajournalism.com/read/longreads/data-visualisation-by-hand>

**McNamara, A.** (28 July, 2019). **Counting commits and peer code review** (blog post, Teach Data Science). <https://teachdatascience.com/countingcommits/>

**McNamara, A.** (2018). **Teaching Statistics, A Bag of Tricks** (book review). *The American Statistician*, 72(2), 206-212. DOI:10.1080/00031305.2018.1469927

Lunzer, A., and **McNamara, A.** (2017). **Exploring Histograms:** Interactive essay. Available online at <https://tinlizzie.org/histograms/>

**McNamara, A.**, Horton, N. J., and Baumer, B. S. (2017). **Greater Data Science at Baccalaureate Institutions.** Invited comment as part of discussion for David Donoho’s 50 Years of Data Science. *Journal of Computational and Graphical Statistics*. 26(4), 781-783. DOI:10.1080/10618600.2017.1386568

**McNamara, A.** (2015). **Barriers and Opportunities for Nurturing Statistical Thinking before College** *CHANCE*. 28(4), 34-42. DOI:10.1080/09332480.2015.1120126

**McNamara, A.** and Hansen, M. (2014). **Teaching Data Science to Teenagers**. In *Proceedings of the 9th International Conference on Teaching Statistics*.

**McNamara, A.** (2014). **Dynamic Documents with R and knitr** (book review). *Journal of Statistical Software*. Vol. 56, Book Review 2. DOI:10.18637/JSS.V056.B02

## IN PROGRESS

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**McNamara, A.** **Teaching modeling in introductory statistics: A comparison of formula and tidyverse syntaxes**. (Under review, pre-print available: arxiv:2201.12960)

Trinh, T. <sup>1</sup>, Hardt, R., and **McNamara, A.** (2022) **Analyzing Software Repository Usage for Individual Assignments**. (Submitted)

**McNamara, A.** **On the State of Computing in Statistics Education: Tools for Learning and for Doing**. (Pre-print available: arxiv:1610.00984)

## TEACHING

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**University of St Thomas** Department of Computer & Information Sciences

STAT 220: **Introductory Statistics** Fall 2018, Spring 2019, Fall 2019, Spring 2020, Spring 2021

STAT 220: **Introductory Statistics (R labs)** Spring 2020, Fall 2020, Spring 2022

STAT 320: **Applied Regression Analysis** Fall 2018, Fall 2019, Fall 2020, Fall 2021, Spring 2022, Fall 2022, Spring 2023

STAT 336: **Data Communication and Visualization** Spring 2020, Spring 2021, Fall 2021, Fall 2022, Spring 2023

STAT 360: **Advanced Statistical Software** Spring 2019

STAT 490: **Topics: Categorical & Text Analysis** Spring 2022

**Smith College** Program in Statistical and Data Sciences 2015-2018

SDS 236: **Data Journalism** Spring 2018

SDS 136: **Communicating with Data** Fall 2017

SDS/MTH 220: **Introduction to Statistics and Probability** Fall 2015, Spring 2016, Fall 2017

SDS/MTH 220: **Introduction to Statistics and Probability (lab)** Fall 2015, Spring 2016

SDS/MTH 291: **Multiple Regression** Spring 2016, Fall 2016

**MassMutual** Data Science Development Program

**Data visualization seminar** (with Jordan Crouser) Summer 2016, Summer 2017

**Advanced git and R** Summer 2018

**University of California, Los Angeles** Statistics Department 2013-2015

STAT 98T: **Data Visualization** (Instructor of record, Collegium of University Teaching Fellows)

STAT 101A: **Introduction to Data Analysis and Regression** (Teaching fellow)

STAT 102B: **Introduction to Computation and Optimization** (Teaching fellow)

## AWARDS

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<b>Accessibility Award</b> , University of St. Thomas Disability Resources Office	2022
<b>Waller Education Award</b> , American Statistical Association	2021
<b>Merit Pin</b> , University of St. Thomas Public Safety Department	2020
<b>Teaching Integrity in Empirical Research Faculty Fellow</b> , Haverford College	2015-2016
<b>Collegium of University Teaching Fellows</b> , University of California, Los Angeles	2014-2015
<b>Dissertation Year Fellowship</b> , University of California, Los Angeles	2014-2015
<b>Graduate Research Fellowship Program Honorable Mention</b> , NSF	2012
<b>Chancellor's Prize Summer Fellowship</b> , University of California, Los Angeles	2011-2012
<b>Konhauser Prize for Mathematical Achievement</b> , Macalester College	2010

## RESEARCH AND CONSULTING

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<b>NSF ITEST - Collaborative Research Grant</b>	2021-2025
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*Data science consultant*

PIs at the University of Nevada, St Louis University, and the University of Maine received an NSF grant entitled “Collaborative Research: Creating and testing data science learning tools for secondary students with disabilities.” They have taken on several advisors and consultants, including myself. My contribution involves reviewing new tooling for statistical accuracy and pedagogical relevance, as well as developing data science curriculum.

<b>Coding Conventions Research Group</b>	2021-
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*Group member*

A group of researchers from the University of Minnesota, University of St Thomas, and Penn State University have begun collaborating on research related to R coding conventions in introductory statistics and data science courses. The group presented at USCOTS and JSM in summer 2021, and working on a paper. Other than myself, the group consists of Chelsey Legacy, Vimal Rao, Elle Basner Butler, Bob delMas, Andrew Zieffler, and Matthew Beckman.

<b>“That seems okay to me” Research Group</b>	2019-
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*Group member*

A group of researchers from Metabase, Cal Poly SLO, University of St Thomas, and Carnegie Mellon University are studying the ways experts and novices read and criticize data analysis. We received IRB approval through Cal Poly to perform user interviews, which have been coded by an undergraduate research assistant. We are in progress on writing a paper for the International Conference on Teaching Statistics. Other than myself, the group consists of Amal Abdel-Ghani, Kelly Bodwin, Philipp Burckhardt, Ian Flores Siaca, Rebecca Nugent, Allison Theobald, and Greg Wilson.

<b>The Concord Consortium</b> , Emeryville, CA	September 2016-March 2017
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*Consultant*

Worked with William Finzer and the Common Online Data Analysis Platform (CODAP) on integrating ‘Data Science Moves’ into CODAP.

<b>Viewpoints Research Institute</b> , Los Angeles, CA	September 2016-January 2017
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*Consultant*

Continued collaboration with Aran Lunzer to develop interactive essays related to the impacts of data aggregation in 1- and 2-D.

**Viewpoints Research Institute**, Los Angeles, CA

2013-2015

*Graduate Intern*

The Viewpoints Research Group is a research group with a variety of interests including the future of programming, internet-scale computing, and programming language design. I collaborated with other researchers on projects to improve statistical computing tools for novices (those with no statistics or programming experience). Examples include **LivelyR** with Aran Lunzer and **locatr** with Ted Kaehler. Director: Alan Kay.

**Mobilize Project**, Los Angeles, CA

2011-2014

*Graduate Student Researcher*

The Mobilize project brings data analysis and statistics to life by allowing high school students to collect information about the world around them using mobile phones, then analyze the data and do something with it. As a graduate student researcher, I developed curriculum to be deployed in LAUSD public high schools, including the innovative Introduction to Data Science course. Over hundreds of hours of professional development, I trained teachers on basic statistical concepts, use of inquiry in teaching, and basic statistical software. Principal Investigator: Rob Gould.

## SHORT COURSES AND WORKSHOPS LED

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**OpenMath Workshop** (with team)

July 2022

**StatPREP Workshop** (with team)

July 2021

**StatPREP Workshop** (with team)

June 2021

**Statistical Learning in R**

February 2021

Internship Network in the Mathematical Sciences (Inmas)

**Exploring the Tidyverse in R** (with Aaron Kessler)

March 2020

NICAR, Investigative Reporters & Editors Conference

*New Orleans, LA*

**Introduction to Data Science in the Tidyverse** (with Hadley Wickham)

January 2020

rstudio::conf

*San Francisco, CA*

**R for Social Science, Data Carpentry** (with Kelsey Gonzalez)

January 2020

Bryn Mawr College

*Bryn Mawr, PA*

**StatPREP Workshop** (with team)

June 2019

Howard Community College

*Columbia, MD*

**Helping the Data Speak** (TA for Nathan Yau)

June 2019

eyeo festival workshop

*Minneapolis, MN*

**git and GitHub Cornucopia**

April 2019

uncoast unconf, John Deere Financial

*Des Moines, IA*

**Data Science in the Tidyverse** (with Hadley Wickham)

January 2019

rstudio::conf

*Austin, TX*

**StatPREP Workshop** (with team)

June 2018

University of Hartford

*Hartford, CT*

<b>Intro to R &amp; RStudio</b> rstudio::conf	January 2018 <i>San Diego, CA</i>
<b>Master the Tidyverse</b> (TA for Garrett Grolemund) RStudio workshop	October 2017 <i>Washington, DC</i>
<b>StatPREP Workshop</b> (with team) St. Catherine University	June 2017 <i>St. Paul, MN</i>
<b>Data Science for Statisticians</b> ENAR, International Biometric Society Meeting	March 2017 <i>Washington, DC</i>
<b>Introduction to R</b> (with Coulter Jones) NICAR, Investigative Reporters & Editors Conference	March 2016 <i>Denver, CO</i>

## KEYNOTES AND PLENARY TALKS

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<b>Data Science as a Superpower</b> Harford Community College STEM Day	February 2023 <i>Bel Air, MD</i>
<b>Speaking R</b> useR! The International R Users Conference	July 2020
<b>Why the Tidyverse?</b> noRth, University of Minnesota	August 2019 <i>Minneapolis, MN</i>
<b>Data Science as a Superpower</b> QUBES, Evolution of Data in the Classroom, William & Mary	July 2019 <i>Williamsburg, VA</i>
<b>Data Journalism as a Liberal Art</b> LACOL Data Science in the Liberal Arts, Washington and Lee University	June 2019 <i>Lexington, VA</i>
<b>Data Science as a Superpower</b> Introduction to Data Science Big Data Day	April 2018 <i>Los Angeles, CA</i>
<b>Interfacing with Data</b> Data Literacy Conference	September 2017 <i>Aix-en-Provence, France</i>

## INVITED TALKS

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<b>What 'counts' as statistical communication?</b> Joint Statistical Meetings	August 2022 <i>Washington, DC</i>
<b>Data Science as a Superpower</b> University of Richmond	February 2022
<b>How Spatial Polygons Shape Our World</b> Northwestern University	October 2021
<b>Consistency is key: A case study in R syntaxes</b> Teaching Integrity in Empirical Research (TIER) Spring Symposium	March 2021
<b>Thoughts on the polygon overlay problem</b> Princeton University Gerrymandering Project	October 2020

<b>How (not) to bring Wikipedia into the classroom</b> Joint Statistical Meetings	August 2020
<b>Scraping, iterating, purring</b> noRth conference	July 2020
<b>Teaching Data Communication</b> Symposium on Statistics and Data Science (SDSS)	May 2019 <i>Bellevue, WA</i>
<b>Wrangling Categorical Data in R Without Losing your Mind</b> rstudio::conf	January 2019 <i>Austin, TX</i>
<b>Key Attributes of a Modern Statistical Computing Tool</b> Statistics Department Seminar, Oregon State University	October 2018 <i>Corvallis, OR</i>
<b>How Spatial Polygons Shape Our World</b> University of Minnesota Institute for Advanced Study	September 2018 <i>Minneapolis, MN</i>
<b>How Software Affects Humans' Conceptions of Data: Case Study in R Syntaxes</b> Joint Statistical Meetings	Aug 2018 <i>Vancouver, BC</i>
<b>Imaging the Future of Statistical Education Software</b> International Conference on Teaching Statistics (ICOTS)	July 2018 <i>Kyoto, Japan</i>
<b>Making Spatial Aggregation More Transparent</b> 2018 CGA Conference: Illuminating Space and Time in Data Science. Harvard University <i>MA</i>	April 2018 <i>Cambridge, MA</i>
<b>Scientists Programming</b> Evidence about Programmers, Schloss Dagstuhl	February 2018 <i>Wadern, Germany</i>
<b>Key Attributes of a Modern Statistical Computing Tool</b> Tableau Software	March 2017 <i>Seattle, WA</i>
<b>Using Data Visualization to Find Patterns in Multidimensional Data</b> Department of Mathematics, Statistics, and Computer Science St. Olaf College	March 2017 <i>Northfield, MN</i>
<b>Bridging the Gap Between Tools for Learning and for Doing Statistics</b> Department of Educational Psychology, University of Minnesota	November 2016 <i>Minneapolis, MN</i>
<b>Bridging the Gap Between Tools for Learning and for Doing Statistics</b> Department of Statistics, University of Massachusetts - Amherst	March 2016 <i>Amherst, MA</i>
<b>Statistical Programming— Past, Present, and Future</b> Department of Statistics, California State University, Fullerton	December 2014 <i>Fullerton, CA</i>
<b>Teaching Data Science to Teenagers</b> (with Mark Hansen) International Conference on Teaching Statistics	July 2014 <i>Flagstaff, AZ</i>

## CONTRIBUTED CONFERENCE PRESENTATIONS

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<b>Implications of R syntax in intro stats</b> rstudio::conf	July 2022 <i>Washington, DC</i>
<b>Teaching modeling in introductory statistics: A comparison of formula and tidyverse syntaxes</b> useR!	June 2022
<b>Integrating Computation in Statistics: Instructional Decisions for Teaching R</b> (with C. Legacy, V. Rao, E. Basner Butler, B. delMas, A. Zieffler, M. Beckman) Joint Statistical Meetings	Aug 2021
<b>Making a Tidy Dress</b> rstudio::conf	January 2020 <i>San Francisco, CA</i>
<b>We should rethink the way we think about percentages</b> SRCCON	July 2019 <i>Minneapolis, MN</i>
<b>Visualizing Data by Hand</b> SRCCON	June 2018 <i>Minneapolis, MN</i>
<b>Teaching Students Reproducibility</b> Electronic Conference on Teaching Statistics (eCOTS)	May 2018 <i>online</i>
<b>How Spatial Polygons Shape Our World</b> OpenVisConf	April 2017 <i>Boston, MA</i>
<b>The Incredible Importance of Variability</b> THINK Conference	November 2016 <i>Bay Area, CA</i>
<b>Pushing the Boundary Between Tools for Learning and for Doing Statistics</b> Joint Statistical Meetings	August 2016 <i>Chicago, IL</i>
<b>The Importance of Parameter Manipulation for Statistics</b> Society for Industrial and Applied Mathematics Annual Meeting	July 2016 <i>Boston, MA</i>
<b>Integrated R Labs for High School Students</b> useR! The R User Conference	June 2016 <i>Stanford, CA</i>
<b>The Gap Between Tools for Learning and for Doing Statistics</b> Electronic Conference on Teaching Statistics	May 2016 <i>online</i>
<b>Do you know Nothing when you see it?</b> OpenVisConf	April 2016 <i>Boston, MA</i>
<b>Using Data Visualization to Find Patterns in Multidimensional Data</b> Big Data Day LA	June 2015 <i>Los Angeles, CA</i>
<b>Teaching R to High School Students</b> (with James Molyneux) useR! The R User Conference	July 2014 <i>Los Angeles, CA</i>
<b>LivelyR: Making R Charts Livelier</b> (with Aran Lunzer) useR! The R User Conference	July 2014 <i>Los Angeles, CA</i>



<b>Mobilize Project</b> (with Jane Margolis and LeeAnn Trusela) Math Science Partnership Learning Network Conference	January 2012 <i>Washington, DC</i>
<b>Model and Optimization of Organic Photovoltaic Cells</b> Joint Meeting of AMS and MAA	January 2010 <i>San Francisco, CA</i>

## PANELS AND ROUNDTABLES

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<b>Data Communication</b> (panelist) Berkeley National Workshop on Data Science Education	June 2021
<b>Fireside Chat</b> (panelist) Symposium on Statistics and Data Science (SDSS)	June 2019 <i>Bellevue, WA</i>
<b>Data Science Education Panel</b> (panelist) Women in Data Science Conference	January 2018 <i>Boston, MA</i>
<b>Data Science at Women's Colleges</b> (panelist) Women in Statistics and Data Science Conference (WSDS)	October 2017 <i>San Diego, CA</i>
<b>Local Data Science Panel Presentation</b> (panelist) Women in Data Science (WiDS) satellite conference, Mt Holyoke College	February 2017 <i>South Hadley, MA</i>
<b>Graphics Software: Favorites and Best Practices</b> (roundtable leader) Joint Statistical Meetings	August 2016 <i>Chicago, IL</i>
<b>Implications for Curriculum</b> (panelist) Alliance to Advance Liberal Arts Colleges (AALAC) Big Data Workshop	January 2016 <i>Wellesley, MA</i>
<b>heR Panel Discussion</b> (panelist) useR! The R User Conference	July 2014 <i>Los Angeles, CA</i>

## POSTER PRESENTATIONS

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<b>Teaching modeling in introductory statistics: A comparison of formula and tidyverse syntaxes</b> eCOTS	May 2022
<b>Computing in the Statistics Curriculum: Lessons Learned from the Educational Sciences</b> (with C. Legacy, V. Rao, E. Basner Butler, B. delMas, A. Zieffler, M. Beckman) USCOTS	June 2021
<b>Pushing the Boundary Between Tools for Learning and for Doing Statistics</b> Joint Statistical Meetings	August 2016 <i>Chicago, IL</i>
<b>It Ain't Necessarily So: Checking Charts for Robustness</b> (with A. Lunzer) IEEE Vis Conference	November 2014 <i>Paris, France</i>
<b>Tools for Teaching Data Science</b> Women in Statistics Conference	May 2014 <i>Cary, NC</i>
<b>Data Visualization on the Soul of the Community</b> Joint Statistical Meetings	August 2013 <i>Montreal, QC</i>

## Model and Optimization of Organic Photovoltaic Cells

Joint Meeting of AMS and MAA, San Francisco, CA

January 2010

Undergraduate Research Symposium, University of Chicago

November 2009

Macalester College, St Paul, MN

October 2009

Institute for Mathematics and its Applications, Minneapolis, MN

July 2009

## INVITED WORKSHOPS AND HACKATHONS

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### **uncoast unconf**

John Deere Financial

April 2019

*Des Moines, IA*

### **Evidence About Programmers for Programming Language Design**

Schloss Dagstuhl

February 2018

*Wadern, Germany*

### **Teaching Integrity in Empirical Research Workshop**

Haverford College

June 2017

*Haverford, PA*

### **rOpenSci hackathon**

CrossCampus

May 2017

*Los Angeles, CA*

### **Designing for Uncertainty in HCI**

CHI Conference

May 2017

*Denver, CO*

### **Moving Transparent Statistics Forward**

CHI Conference

May 2017

*Denver, CO*

### **Youth, Learning and Data Science Summit**

University of California, Berkeley

August 2016

*Berkeley, CA*

### **Teaching Integrity in Empirical Research Workshop**

Haverford College

June 2016

*Haverford, PA*

### **rOpenSci hackathon**

GitHub

March 2014

*San Francisco, CA*

## LOCAL CONTRIBUTIONS

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### **Teaching Modeling in Introductory Statistics: A Comparison of Formula and Tidyverse Syntaxes.**

StatChat, University of St Thomas

April 2023

*St. Paul, MN*

### **Workflow basics, Markdown, git/GitHub**

Guest lecture, DATA 400: Data Analytics Capstone, University of St Thomas

April 2023

*St Paul, MN*

### **Workflow basics, Markdown, git/GitHub**

Guest lecture, DATA 400: Data Analytics Capstone, University of St Thomas

March 2023

*St Paul, MN*

### **Data Journalism**

Guest lecture, JOUR 451: Advanced Multimedia Reporting, University of St Thomas

March 2023

*St Paul, MN*

### **Text as Data**

Guest lecture, ENGL 390: The Erdrichs, University of St Thomas

April 2022

*St Paul, MN*

<b>Data Journalism</b> Guest lecture, JOUR 451: Advanced Multimedia Reporting, University of St Thomas	March 2022 <i>St Paul, MN</i>
<b>Algorithmic Accountability</b> Teach-in Tuesday, University of St Thomas	March 2022 <i>St Paul, MN</i>
<b>A Career Pathway at Primarily Undergraduate Institutions (PUIs)</b> University of Wisconsin, Madison	February 2022
<b>Lunch and Learn: How to Make Your Classroom More Equitable and Inclusive - Computer and Information Sciences Case Study</b> University of St Thomas	December 2020 <i>St Paul, MN</i>
<b>Spatial Gerrymandering: Can it be Avoided?</b> University of Minnesota	September 2020
<b>Lunch and Learn: Assessing Students in the Fall with Integrity and Compassion</b> University of St Thomas	July 2020 <i>St Paul, MN</i>
<b>Women in Data Science Symposium</b> (panelist) University of Minnesota	November 2019 <i>St Paul, MN</i>
<b>Algorithmic Inequality</b> Groveland Unitarian Universalist Fellowship	November 2019 <i>St Paul, MN</i>
<b>Activities and Thoughts on Teaching a “Data Science for All” Course</b> Southern MN StatChat, St Olaf College	April 2019 <i>Northfield, MN</i>
<b>Handmade Data Viz</b> StatChat, Macalester College	April 2019 <i>St Paul, MN</i>
<b>Working with Spatial Data: Implications of the Change of Support Problem</b> Applied Probability and Statistics Seminar, University of St Thomas	May 2019 <i>St Paul, MN</i>
<b>Working with Spatial Data: Implications of the Change of Support Problem</b> Guest lecture, PUBH 7462: Advanced Programming and Data Analysis in R, UMN <i>Minneapolis, MN</i>	April 2019
<b>R-Ladies Panel</b> (panelist) Amherst R-Ladies	March 2019 <i>Amherst, MA</i>
<b>Speed Networking Workshop</b> University of St Thomas Association of Women in Science (WINS)	December 2018 <i>St Paul, MN</i>
<b>The Power of Algorithms for Good and for Evil</b> World Usability Day, University of Minnesota	November 2018 <i>Minneapolis, MN</i>
<b>Women in Science</b> (panelist) University of St Thomas Association of Women in Science (WINS)	November 2018 <i>St Paul, MN</i>
<b>Algorithmic Accountability</b> Otelia Cromwell Day workshop, Smith College	November 2017 <i>Northampton, MA</i>

<b>Topic IV: Visualization</b> , with Ben Baumer New England Isolated Statisticians Meeting, Stonehill College	November 2017 <i>Easton, MA</i>
<b>Big Data, Polling, and the Politics of Education</b> Guest lecture, AMS 100: Thinking Through the 2016 Election, Smith College	March 2017 <i>Northampton, MA</i>
<b>What's Missing? Identifying the Gaps, Biases, and Omissions in Digital Data</b> Guest lecture, IDP 160: Digital Effects, Smith College	Oct. 2016 <i>Northampton, MA</i>
<b>Futurisms, part II: Intersections: Digital Humanities, Interactive Media and Cultural Heritage</b> (faculty fellow) Smith College Kahn Institute	February 2016 <i>Northampton, MA</i>
<b>Futurisms, part I: The Ten Thousand Year Collection</b> (faculty fellow) Smith College Kahn Institute	December 2015 <i>Northampton, MA</i>
<b>Using Data Visualization to Find Patterns in Multidimensional Data</b> Guest lecture, CS 342: Statistical Learning, Hampshire College	November 2015 <i>Amherst, MA</i>
<b>Using Data Visualization to Find Patterns in Multidimensional Data</b> Western Mass Data Science, Stats, and R Meetup	November 2015 <i>Amherst, MA</i>
<b>Eyeo Highlights</b> Datavis LA Meetup	August 2014 <i>Los Angeles, CA</i>

## SERVICE TO DEPARTMENT AND INSTITUTION

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<b>R for Data Science Faculty Learning Community</b> Faculty leader <ul style="list-style-type: none"> <li>· Leader of a semester-long faculty learning community, which met weekly.</li> <li>· Community read the book R for Data Science, to build familiarity with R.</li> <li>· Faculty participants came from the Dougherty Family College, the Opus College of Business, the School of Engineering, and the College of Arts and Sciences.</li> </ul>	Spring 2022
<b>University of St Thomas HR Roadmap Steering Committee</b> Committee Member <ul style="list-style-type: none"> <li>· Faculty representative to steering committee.</li> </ul>	2022
<b>Building a Community of R Users Faculty Learning Community</b> Faculty leader <ul style="list-style-type: none"> <li>· Leader of a semester-long faculty learning community, which met biweekly.</li> <li>· Faculty participants came from the the College of Arts and Sciences, Opus College of Business, and the School of Social Work.</li> </ul>	Spring 2021
<b>College of Arts and Sciences DEI Taskforce</b> Committee Member <ul style="list-style-type: none"> <li>· Also a member of the HEDS data sub-committee.</li> </ul>	2020-2021
<b>University of St Thomas Data Analytics Faculty Board</b> Committee Member <ul style="list-style-type: none"> <li>· This two year term ends May 2022.</li> </ul>	2020-2022

**University of St Thomas Technology Advisory Committee (UTAC)** 2019-2023

Co-chair

- Four-year appointment began Fall 2019 and ends 2023.
- Faculty co-chair of the committee for the 2020-2021 and 2021-2022 school years.
- Member of the Information Security Consulting Group (ISCG), a sub-committee of UTAC, for the 2022-2023 school year.

**University of St Thomas HHMI Inclusive Excellence Grant** 2019-present

Inclusive Excellence Advisor, CISC representative

- Participated in Inclusive Excellence Training, and serve as an Inclusive Excellence Advisor for incoming first-year students.
- As a CISC representative, represent the Computer & Information Science Department's interests and serve as a reporter between the grant and department.
- Attend yearly HHMI Inclusive Excellence conferences as a participant.

**University of St Thomas Statistics Program Committee** 2018-present

Member

- Assisted in the development of new curriculum for the statistics program, including changes to the statistics major and minor, the development and proposal of new upper-level courses, and discussion of statistics-related courses in other disciplines.

**Smith College Statistical and Data Sciences Program Committee** 2015-2018

Faculty member

- Assisted in developing the major in Statistical and Data Sciences (approved April 2016).
- Voted on departmental policy about honors theses, special studies, course waivers, and the like.
- Organized invited talk by Amanda Cox (long time member of the graphics team at The New York Times, now editor of The Upshot), attended by almost 200 people from the college and community.
- Organized invited talk by Christine Zhang '09 (alumna and recipient of 2016 Mozilla Open News Fellowship, data journalist at the LA Times), attended by approximately 100 people.
- Managing Twitter presence @SmithCollegeSDS.

**Five College DataFest** 2015-2018

Co-organizer with Ben Baumer

- Planned and executed the 2016 and 2017 FiveCollege DataFests
- DataFest is a weekend-long data hackathon event for more than 100 undergraduate students from Smith, Mt Holyoke, Hampshire, Amherst, and UMass Amherst.
- Managed social media, including Wordpress website and Twitter presence @FiveCollegeStat.
- Recruited data science experts to serve as VIP visitors and judges.
- Solicited donations from corporations like Google and RStudio.
- Coordinated prizes and swag for students.

**University of California, Los Angeles DataFest** 2011-2015

Planning Member

- As a graduate student, assisted in planning and executing the 2012, 2013, 2014, and 2015 UCLA DataFests for undergraduates, attended by 100-200 undergraduate students from UCLA, the University of Southern California, Pomona College, California Polytechnic State University San Luis Obispo, and the University of California, Riverside.
- Managed Twitter presence @UCLADataFest.
- Served as on-the-ground-advisor for students at the event, discussing ideas and coding issues.

- Assisted in coordinating donations and swag from corporations like GitHub, Google, Revolution Analytics, and RStudio.

#### **UCLA Graduate Student Orientation Planning Committee** 2012-2013

Tour Coordinator

- Helped plan and execute the 2012 and 2013 UCLA grad student orientations, attended by 1,000+ incoming graduate students each year.
- Discussed general orientation issues, such as panel topics and logistical concerns.
- Organized and trained 15 volunteer tour guides to lead tours campus.
- Prepared tour materials and checked routes for North Campus, South Campus, and General tours.
- On the day of orientation, coordinated hourly tours and assigned tour guides to routes.

#### **UC Day in DC** May 2013

University of California, Los Angeles Delegate

- Represented UCLA and graduate student interests at the University of California's annual federal advocacy day in Washington, DC.
- Met with congressmembers and their staff to discuss Federal funding for programs impacting graduate students.

#### **UCLA Graduate Resource Center Oversight Committee** 2011-2012

Voting Member

- Assisted in developing a new strategic plan for UCLA's graduate resource center.

### **SERVICE TO PROFESSION**

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#### **Journal of Visualization and Interaction (JoVI)** 2023-

Advisory Board Member

- Assist with development of long-range journal vision,

#### **NAS-NSF Tools & Transfer Working Group** 2023

Working group member

- The National Academies of Sciences and the National Science Foundation, along with Data Science 4 Everyone, the Concord Consortium and the Valhalla Foundation, have developed a series of Research-Practice Working Groups.
- The Tools & Transfer working group is tasked with considering the issues of technology tools for K-12 data science, as well as transfer within/between tools.
- Over a series of four working group meetings, the group developed a report draft.

#### **American Statistical Association Council of Sections** 2023-2025

Representative for the Section on Statistics and Data Science Education

- Elected representative for the Section on Statistics and Data Science Education (SSDSE).
- Attend council of sections meetings, representing SSDSE.

#### **Journal of Statistics and Data Science Education (JSDSE)** 2022-present

Associate editor

- Associate editor added to build data science education expertise at the journal.

#### **Foundations of Data Science (FoDS) journal** 2021

Guest editor

- Guest editor for special issue "Data Science Education Research."
- Worked with other guest editors to develop solicitation.

- Publicized solicitation and sought submissions.
- Assessed proposed submissions.

### **Dagstuhl Seminar: Transparent Quantitative Research as a User Interface Problem 2022**

Member of organizing committee

- Over the course of two years, iteratively wrote and submitted two proposals for a Dagstuhl seminar. Second proposal was accepted.
- Seminar will take place September 25-30, 2022, in Wadern, Germany.
- Co-organizers: Chat Wacharamanatham, Judy Robertson, Yvonne Jansen, Kasper Hornbæk.

### **Joint Statistical Meetings Program Committee**

2019-2020

Section on Statistics and Data Science Education Chair

- As section chair-elect, organized roundtables and Birds of a Feather sessions for the Section on Statistics and Data Science Education for JSM 2019.
- Served as proxy for current section chair at March 2019 JSM organizing meeting in Alexandria, VA.
- As section chair, organized invited sessions, contributed sessions, and poster sessions for the Section on Statistics and Data Science Education for JSM 2020.
- As section chair, reorganized invited sessions, contributed sessions, and poster sessions for the Section on Statistics and Data Science Education for the online version of JSM 2020 when covid-19 forced a pivot.

### **Statistics and Data Science Symposium Program Committee**

2018-2019

Visualization co-chair, with Silas Bergan

- As co-chair, helped organize invited sessions on visualization for SDSS.
- As co-chair, organized and scheduled contributed sessions on visualization for SDSS.

### **Women in Statistics and Data Science Conference (WSDS) San Diego, CA**

2017

Panel chair

- WSDS R-Ladies Panel: Improving Gender Diversity in a Male-Dominated Community.

### **Joint Statistical Meetings Chicago, IL**

2016

Session Chair

- Toward Better Communication of Information with Statistical Graphics – Contributed Papers.
- Reproducibility in Statistics and Data Science – Invited Papers (substitute chair).

### **Los Angeles useR! Conference Organizing Committee**

2013-2014

Planning Member

- Assisted in planning and executing the 2014 international R user conference (700 attendees).
- Recruited and coordinated 80 student volunteers.
- Assisted with conference website before, during, and after the conference.
- Promoted conference on social media, encouraged minority participation.
- Supervised on-the-ground conference logistics, including registration, catering, and facilities services.

### **Southern California AP Statistics Poster Competition**

2014

Judge

- Judged entries to the 2014 Southern California AP Statistics Poster Competition.

### **Ad-hoc referee**

2014-present

Journals:

- The American Statistician (TAS)
- Computer Science Education (CSE)

- Harvard Data Science Review (HDSR)
- Journal of Statistical Software (JSS)
- Journal of Statistics and Data Science Education (JSDSE)
- PLOS Biology
- Statistics Education Research Journal (SERJ)
- Statistics and Public Policy (SPP)
- Technology Innovations in Statistics Education (TISE)

#### **Ad-hoc referee**

2017-present

#### **Conferences:**

- ACM Interaction Design and Children Conference (IDC)
- Conference on Human Factors in Computing Systems (CHI)
- Institute of Electrical and Electronics Engineers Vis Conference (IEEE VIS)
- International Conference on Teaching Statistics (ICOTS)

## **SKILLS**

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<b>Languages</b>	Expert: R, $\text{\LaTeX}$ , HTML, Markdown Intermediate: Spanish, Python, git, JavaScript, Matlab, Mathematica, ArcGIS
<b>Social Media</b>	Twitter: <b>@AmeliaMN</b> , 18,000+ followers Formerly managed <b>@SmithCollegeSDS</b> , <b>@FiveCollegeStat</b> , <b>@UCLADataFest</b> , <b>@user2014_UCLA</b> YouTube: <b>youtube.com/c/AmeliaMcNamara</b> , 2,000+ subscribers

## **MEMBERSHIPS IN PROFESSIONAL SOCIETIES**

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<b>Association for Computing Machinery (ACM)</b>	2019-present
<b>American Statistical Association (ASA)</b>	2012-present
<b>Association for Women in Mathematics (AWM)</b>	2008-2010, 2014-present
<b>Society for Industrial and Applied Mathematics (SIAM)</b>	2012-2016
<b>Institute of Electrical and Electronics Engineers (IEEE)</b>	2016-2017
<b>WNAR: International Biometric Society (WNAR)</b>	2013-2014