

# William Cipolli

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## Highlights

I have been an Assistant Professor of Mathematics at Colgate University for five semesters. I have spearheaded the effort to develop and revise the statistics curriculum at Colgate by designing several courses. These courses include examples, ideas, and theory that come from the intimate connection between my statistics research and engagement with practical problems. My methodological research focuses on Bayesian nonparametric approaches to a variety of problems including multiple testing, density estimation, and supervised learning. This work has been published in competitive journals like *Statistics and Computing*, and *Computational Statistics and Data Analysis*. I also collaborate on multidisciplinary projects which have been published in top journals of statistics, sociology, psychology, biology, and medicine.

## Education

- 2012–2016 **Ph.D Statistics**, *University of South Carolina*, Columbia, SC.
  - Advisor: Dr. Timothy Hanson
- 2012–2014 **MS Statistics**, *University of South Carolina*, Columbia, SC.
- 2007–2011 **BA Mathematics**, *Quinnipiac University*, Hamden, CT.
- 2007–2011 **BS Computer Science**, *Quinnipiac University*, Hamden, CT.

## Academic Positions

- 2016–Present **Assistant Professor**, *Colgate University*, Hamilton, NY.
  - Five courses per year including: Probability; Math Stat; Intro Stat; Data Analysis
  - Nominated for Phi Eta Sigma Professor of the Year Award (2017)
- 2012–2016 **Graduate Assistant**, *University of South Carolina*, Columbia, SC.
  - One course per semester including: Elementary Statistics with a lab; Statistical Methods
  - Online curriculum content created including instructional videos and assignments
  - Outstanding Graduate Assistant Award (2015)
  - Citizenship Award (2014)
  - Two Thumbs Up Disability Services Award (2015)
- 2014 **Adjunct Professor**, *Florence Darlington Technical College*, Florence, SC.
  - Two courses including: Probability and Statistics; Microcomputer Applications
  - Online curriculum content created including lecture slides, assignments, and exams

## Research

As of January 2019, I have been an author on thirteen papers; seven are published, four are accepted, one is in revision, and one is submitted. Five of these contribute to the statistics literature, and eight of them contribute to other disciplines. I have received one grant and am currently collaborating on a second.

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## Publications

W. Cipolli and T. Hanson, "Supervised learning via smoothed Polya trees." Accepted at *Advances in Data Analysis and Classification*, 2018.

R. Bower, J. R. Hussey, J. Zhang, J. Quattro, M. Muhling, W. Cipolli, and J. W. Hardin, "The score test for independence of two marginal Poisson variables." Accepted at *Communications in Statistics - Case Studies and Data Analysis*, 2018.

D. M. Silva, L. Kennedy, M. E. Coelho, and W. Cipolli, "Hitting home : The Humboldt Broncos tragedy and representations of Canadian national identity." Accepted at *Sociology of Sport Journal*, 2018.

A. Robertson, W. Cipolli, and M. Dascalu, "On the distribution of monochromatic complete subgraphs and arithmetic progressions." Accepted at *Experimental Mathematics*, 2018.

A. Jimenez, J. Winward, U. Beattle, and W. Cipolli, "Cellular metabolism and oxidative stress as a possible determinant for longevity in small breed and large breed dogs," *PLoS ONE*, vol. 13, pp. 1–20, April 2018.

R. Bower, J. R. Hussey, J. Zhang, J. Quattro, W. Cipolli, and J. W. Hardin, "A copula approach for testing independence between Poisson distributed variables," *Communications in Statistics: Case Studies, Data Analysis and Applications*, pp. 1–9, March 2018.

D. M. Silva, R. Bower, and W. Cipolli, "In search of a five-star: The centrality of body discourses in the scouting of high school football players," *Sociology of Sport Journal*, pp. 1–32, October 2017.

E. Cooley, B. Payne, W. Cipolli, C. Cameron, A. Berger, and K. Gray, "The paradox of group mind: 'People in a group' have more mind than 'a group of people'," *Journal of Experimental Psychology: General*, vol. 146, pp. 1691–1699, May 2017.

W. Cipolli and T. Hanson, "Computationally tractable approximate and smoothed Polya trees," *Statistics and Computing*, pp. 1–13, April 2016.

W. Cipolli, T. Hanson, and A. McLain, "Bayesian nonparametric multiple testing," *Computational Statistics and Data Analysis*, vol. 101, pp. 64–79, September 2016.

J. Fowler, W. Cipolli, and T. Hanson, "A comparison of three diagnostic tests for diagnosis of carpal tunnel syndrome using latent class analysis," *Journal of Bone & Joint Surgery*, vol. 97, pp. 1958–1961, December 2015.

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## Submitted Research

E. Cooley, J. Brown-Iannuzzi, R. Lei and W. Cipolli, "Complex intersections of race and class: Among social liberals, learning about White privilege reduces sympathy, increases blame, and decreases external attributions for White people struggling with poverty." In revision with *Journal of Experimental Psychology: General*, 2018.

E. Cooley, N. Hester, W. Cipolli, L. Rivera, K. Abrams, J. Pagan, S. Sommers, and K. Payne, "Racial biases in officers' decisions to frisk are amplified for Black people stopped among groups leading to similar biases in searches, arrests, and use of force." Submitted to *Social Psychological and Personality Science*, 2018.

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## Grants

J. Finnell and W. Cipolli, "The data analysis + consultation network." Awarded by the Central New York Library Resources Council, November 2018.

E. Cooley, L. Philbrook, W. Cipolli, J. Brown-Iannuzzi, and R. Lei, "Does poor = Black and rich = White? Race-based class assumptions and their consequences for increasing racial resentment and race-related health disparities in the United States." Invited for a full proposal by the Picker Interdisciplinary Science Institute, December 2018.

D. Silva and W. Cipolli, "Identifying sentiment-based indicators of extremism within India's political landscape." Pre-proposal submitted for a Public Safety Canada Grant, January 2019.

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## Research in Progress

W. Cipolli, "Prediction via smoothed Polya trees." In progress.

W. Cipolli, C. McMahan, C. Bilder, and J. Tebbs, "Identifying misdiagnoses in pooled testing data." In progress.

R. Bower J. Hussey, J. Zhang, J. Quattro, M. Muhling, W. Cipolli, and J. Hardin, "The score test for a bivariate Pareto distribution." In progress.

K. Macomber, J. Grimmett and W. Cipolli, "It doesn't happen here: An inquiry into sexual assault on female-only college campuses." Preparing grant application.

A. Pattison, J. Marichal, and W. Cipolli, "New York state fracking ban: A discourse analysis of the narrative policy framework." In progress.

A. Ray, J. Francese, Y. Zou, R. Bower, W. Cipolli, K. Watson, D. Crook, J. Millar, "Detection of velvet longhorned beetle populations using attractant baited traps." In progress.

D. Silva and W. Cipolli, "The decline of the Islamic State: An empirical test of organizational squeeze." In progress.

D. Silva and W. Cipolli, "How radicalization became the dominant framework for understanding terrorism." Full-proposal in progress for an Insight Development Grant submitted to Social Science and Humanities Research Council of Canada, January 2019.

D. Sull, and W. Cipolli, "Quantifying corporate culture." In progress.

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## Invited and Contributed Presentations

08/01/2018 **MathFest**, *Sheraton Denver Downtown*, Denver, CO.

- Commenced participation as a Project NExT Fellow (Peach'18)
- Presented in a poster session for scholarship by early career mathematicians
- Judged for the MAA undergraduate student paper presentations

01/11/2018 **Joint Mathematical Meetings**, *San Diego Convention Center*, San Diego, CA.

- Project NExT panelist – "Incorporating coding into all levels of the college math curriculum"
- Presented in a contributed paper session in the probability and statistics section
- Judged for the MAA undergraduate student poster session
- Moderated a MAA general contributed paper sessions on probability and statistics

12/10/2017 **The International Workshop on Objective Bayes Methodology**, *University of Texas – Austin*, Austin, TX.

- Presented in a poster session for graduate students and junior faculty

- 06/26/2017 **Bayesian Nonparametrics 2017**, *Ecole Normale Superieure*, Paris, France.
  - Presented in a poster session for graduate students and junior faculty
- 05/25/2017 **2017 Conference on Lifetime Data Science**, *UConn University*, Storrs, CT.
  - Presented in a contributed paper session in the Bayesian nonparametric survival analysis section under the theme - "Data science, precision medicine and risk analysis with lifetime data"
- 03/29/2017 **Annual Meeting of the Southern Sociological Society**, *Hyatt Regency Conference Center*, Greenville, SC.
  - Presented in a contributed paper session in the sociology of sports section under the theme - "Diversities: Inequality, inclusion, and resistance"
- 07/30/2016 **Joint Statistical Meetings 2016**, *McCormick Place*, Chicago, Illinois.
  - Presented in a poster session for graduate students and junior faculty
- 06/22/2015 **Bayesian Nonparametrics 2015**, North Carolina State University, Raleigh, NC.
  - Presented in a poster session for graduate students and junior faculty
  - Received a travel award funded by NSF
- 06/09/2015 **Southern Regional Council on Statistics Summer Research Conference 2015**, Carolina Beach, NC.
  - Presented in the NSF/Anderson student poster session
  - Awarded a Boyd Harshbarger travel award
  - Honorable mention in poster competition
- 03/06/2015 **ASA Palmetto Symposium**, University of South Carolina, Columbia, SC.
  - Presented in the student contributed paper session

### Invited Colloquium Presentations

- 10/19/2018 **Mathematics Colloquium**, SUNY Geneseo, Geneseo, NY.

### Professional Consulting

- 07/20/2018 **FDA medical statistical analysis plan for an ELISA test for bladder cancer**, Genesis Biotechnology Group, Hamilton, NJ.
- 01/04/2017 **Black groups accentuate hypodescent by activating threats to the racial hierarchy**, *Psychology Department*, Colgate University, Hamilton, NY.
- 10/04/2016 **The othering of Muslims: Discourses of radicalization in the New York Times, 1969-2014**, *Sociology Department*, University of South Carolina, Columbia, SC.
- 03/16/2014 **Judging appropriateness of SUP Using patient demographic data**, *Pharmacology Department*, University of South Carolina, Columbia, SC.
- 02/17/2014 **Veteran affairs resource utilization by patients with HFpEF**, *Pharmacology Department*, University of South Carolina, Columbia, SC.
- 02/05/2014 **Attitude towards homelessness questionnaire**, *Psychology Department*, University of South Carolina, Columbia, SC.
- 06/15/2013 **The G20 through the Internet of Things (IoT) lens**, International Data Corporation, Framingham, MA.

## Teaching

My goal as a teacher is to have a profound and lasting impact beyond simply teaching the subject material. Having worked with students at Colgate University (my current position), the University of South Carolina, and Florence Darlington Technical College, I have had the opportunity to guide and connect with thousands of undergraduate students of varying levels of mathematical and technological experience. I take many steps to ensure that each student is able to succeed in my classes, where I hold very high standards but strive to provide the resources for success, regardless of students' previous mathematics experiences.

## Courses Taught

### Colgate University

Fall	2018	<i>Data Analysis I</i>	1 section
Fall	2018	<i>Probability</i>	1 section
Spring	2018	<i>Introductory Statistics</i>	1 section
Fall	2017	<i>Probability</i>	1 section
Fall	2017	<i>Introductory Statistics</i>	1 section
Spring	2017	<i>Introductory Statistics</i>	1 section
Spring	2017	<i>Mathematical Statistics</i>	1 section
Fall	2016	<i>Probability</i>	2 sections

### University of South Carolina

Spring	2016	<i>Elementary Statistics</i>	1 section/1 lab
Fall	2015	<i>Elementary Statistics</i>	1 section/1 lab
Summer	2015	<i>Statistical Methods I</i>	1 section/1 lab
Spring	2015	<i>Elementary Statistics</i>	1 section/1 lab
Fall	2014	<i>Elementary Statistics</i>	1 section/1 lab
Summer	2014	<i>Elementary Statistics</i>	1 section/1 lab
Spring	2014	<i>Elementary Statistics</i>	1 section/1 lab
Fall	2013	<i>Elementary Statistics</i>	1 section/1 lab
Spring	2013	<i>Elementary Statistics</i>	3 labs
Fall	2012	<i>Elementary Statistics</i>	3 labs

### Florence Darlington Technical College

Summer	2014	<i>Probability and Statistics</i>	1 section
Summer	2014	<i>Microcomputer Applications</i>	1 section

## Supervised Student Research

Summer	2017	<i>Jake Bensky and Xiaohan Li</i>	RShiny Applet Development
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## Professional Development

- 2018–Present **Project NExT Fellow**, *Mathematical Association of America*.
- July 30-August 4, 2018 – Project NExT Workshops at MathFest

2016–Present **Teaching Tables, Colgate.**

- 09/13/2018 – CLTR Symposium on Teaching and Learning
- 04/21/2018 – Supporting the Success of International Students at Colgate
- 12/06/2018 – Sustainability and Climate Change in Your Courses
- 11/03/2017 – I Love Teaching, I Hate Grades: Rethinking the Ways We Motivate Students
- 06/07/2017 – Cross-Cultural Communication Training
- 06/02/2017 – Bridges: Building a Supportive Community Online Training
- 03/23/2017 – Handling Student Crises
- 03/21/2017 – Bringing Queer into the Classroom: LGBTQIA - Inclusive Teaching and Advising
- 02/24/2017 – Obtaining and Using Mid-Semester Course Feedback
- 10/20/2016 – Shaping the Classroom to Include All Identities
- 10/04/2016 – LGBTQIA Safe Zone Training
- 09/28/2016 – Teaching with Technology
- 09/13/2016 – Question. Persuade. Refer. Suicide prevention training

## Textbooks in Progress

W. Cipolli, J. Tebbs, and R. Bower “Statistics for the modern student with applications in R.” In progress.

W. Cipolli, and J. Tebbs “Mathematical Statistics with R.” In progress.

## Professional Service

### Conference Organization

- Session organizer at Joint Mathematical Meetings (2019): “*Standards-based grading: Tools and tips for successful implementation.*”

### External Reviewing

- *Computational Statistics and Data Analysis* – Manuscript referee (2)
- *Problems, Resources, and Issues in Mathematics Undergraduate Studies (PRIMUS)* – Manuscript referee (1)
- *Journal of Statistics Education* – Manuscript referee (2)
- *Interdisciplinary Sciences: Computational Life Sciences* – Manuscript referee (2)
- *26th Annual European Symposium on Algorithms* – Manuscript referee (1)
- *Biometrics* – Manuscript referee (2)
- *Wiley* – Textbook review (1)
- *NIH* – Scientific review officer for the Disease Prevention and Management, Risk Reduction and Health Behavior Change SBIR panel (2017)

### Colgate University

- 2018: Hosted a Ciccone Commons Faculty Dinner
- 2017: Met with tenure stream candidates for the chemistry department
- 2017 – Present: Three year appointment to Faculty Development Council (FDC)
- 2017: Participated in a second year faculty session for new faculty orientation
- 2017: April Visit Days Luncheon and Faculty Reception participant
- 2017: Presented research at the Division of Natural Sciences & Mathematics Retreat
- 2017: Member of the planning committee for the Division of Natural Sciences & Mathematics Retreat
- 2017 – Present: Member of the Research Computing Committee
- 2017 – 2018: Minute taker for the Mathematics department meetings
- 2017: Presenter at a Ciccone Commons speakeasy titled *“Has Siri taken over? The roles of artificial intelligence”*
- 2016 – 2017: Coordinator for the Colgate data science club team at DataFest17 competition
- 2016 – 2017: Coordinator for student presenters at the Hudson Valley Undergraduate Math Conference at Westfield State University
- 2016: Putnam exam proctor