

Grant L. Innerst

CONTACT INFORMATION	Department of Mathematics Shippensburg University 1871 Old Main Dr. Shippensburg, PA, 17257, USA	<i>Cell</i> (717) 324-1202 <i>E-mail</i> glinnerst@ship.edu <i>WWW</i> grantinnerst.github.io <i>Github</i> www.github.com/GrantInnerst
RESEARCH INTERESTS	Statistical computing, algebraic statistics, statistics education, categorical data analysis	
PROFESSIONAL EXPERIENCE	Assistant Professor Department of Mathematics , Shippensburg University , Shippensburg, Pennsylvania, USA.	August 2019 – Present
EDUCATION	Baylor University , Waco, Texas, USA	August 2015 – August 2019
	Doctor of Philosophy (Ph.D.), Statistics	August 2019
	<ul style="list-style-type: none">• Advisor: Dr. David J. Kahle• Title: <i>Contributions to Computational Algebraic Statistics</i>	
	Master of Science (M.S.), Statistics	August 2015 – January 2017
	Shippensburg University , Shippensburg, Pennsylvania, USA	
	Bachelor of Science (B.S.), Mathematics	August 2011 – May 2015
ARTICLES IN PREPARATION	Innerst G. and D. Kahle (2018). “Practical Approaches to Accelerating Exact Conditional Inference in Discrete Exponential Families.”	
	Innerst G. and D. Kahle (2019) “ bertini : A Backend Connection to the Numerical Algebraic Geometry Package Bertini in R.”	
COPYRIGHTS	Gao, P., G. Innerst, D. Kahle, D. Kim, R. Yoshida, X. Zhang (2017). tropical : Tropical Geometry in R. R package version controlled with Git and GitHub . Licence: GPL-2 .	
INVITED PRESENTATIONS	Innerst, G. “Using Algebraic Geometry to Solve Problems in Statistics.” <i>Shippensburg University Department of Mathematics lecture series</i> , Shippensburg , Pennsylvania, USA, December 5th, 2019.	
	Innerst, G. “MCMC Strategies to Enhance Exact Conditional Inference in Discrete Exponential Families.” <i>Shippensburg University Department of Mathematics lecture series</i> , Shippensburg , Pennsylvania, USA, March 8, 2018.	
CONFERENCE PRESENTATIONS	Bold denotes presenter.	
	Innerst, G. and D. Kahle. “Solving Statistical Estimation Problems with Algebraic Geometric Tools.” <i>2020 Joint Mathematics Meetings</i> , Colorado Convention Center, Denver, Colorado, USA, January 15 – 18, 2020. (Talk)	
	Innerst, G. and D. Kahle. “An Algebraic Approach to Minimum Chi-Square Estimation.” <i>2019 Joint Mathematics Meetings</i> , Baltimore Convention Center, Baltimore, Maryland, USA, January 16 – 19, 2019. (Talk)	

Innerst, G. and D. Kahle. “An Algebraic Approach to Minimum Chi-Square Estimation.” *2018 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Diversity in STEM Conference*, Henry B. González Convention Center, San Antonio, Texas, USA, October 10 – 13, 2018. (Poster)

Hossu, P., C. Sun, G. Innerst, R. Hebdon, and D. Kahle. “A Geometrically-Inspired Discrepancy for Categorical Probability Distributions.” *Annual College of Science Poster Day*, Illinois Institute of Technology, Chicago, Illinois, USA, August 17, 2018. (Award: Best Applied Math Poster)

Innerst, G., D. Kim, P. Gao, and D. Kahle. “MCMC Strategies to Enhance Exact Conditional Inference in Discrete Exponential Families.” *2017 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Diversity in STEM Conference*, Salt Palace Convention Center, Salt Lake City, Utah, USA, October 19–21, 2017. (Poster)

Kim, D., P. Gao, G. Innerst, and D. Kahle. “Accelerating Exact Conditional Inference in Discrete Exponential Family Models.” *2017 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Diversity in STEM Conference*, Salt Palace Convention Center, Salt Lake City, Utah, USA, October 19–21, 2017. (Poster)

ACADEMIC EXPERIENCE

Shippensburg University, Shippensburg, Pennsylvania, USA

Assistant Professor of Mathematics

August 2019 - Present

- Teaching, research and creative activity, University and community service, direction of undergraduate student research, advising of undergraduate mathematics majors.

Baylor University, Waco, Texas, USA

Graduate Research Assistant

Summer 2017, Summer 2018

- Worked within a vertically integrated research team to further develop **algstat**, an R package that implements algebraic statistics methods. During this time, the teams focused on creating and improving implementations of loglinear, Poisson, and logistic models as well as algebraic pattern recognition.
- The material is based upon work supported by the National Science Foundation under Grant Nos. [1622449](#) and [1622369](#)

TEACHING EXPERIENCE

Shippensburg University, Shippensburg, Pennsylvania, USA

Assistant Professor

Fall 2019 - Present

- MAT 175 - Precalculus
- MAT 217 - Statistics I
- MAT 219 - Data Science I

Baylor University, Waco, Texas, USA

Teacher of Record in Information Systems

August 2017 – August 2019

- QBA 2302 – Business Data Analysis I
- QBA 3305 – Introduction to Business Analytics

Teacher of Record in Statistical Science

August 2016 – August 2017

- STAT 1380 – Elementary Statistics

Instructor

Summer 2017, Summer 2018

- Designed and presented daily lectures on statistical computing, statistical theory, relevant academic topics for a summer research group. Provided computational and theoretical support for students' research projects.

Teaching Assistant

August 2015 – August 2016

- Provided support for undergraduates taking introductory statistics classes.
- Graded daily assignments and assisted in grading exams.

Shippensburg University, Shippensburg, Pennsylvania, USA

Student Teaching Experience

January 2015 – May 2015

- Completed student teaching experience at [Central Dauphin High School](#).
- Duties included but were not limited to preparing class notes, creating lesson plans, teaching, reflecting on teaching methods and effective learning strategies.
- Courses taught: Algebra I, Algebra II, Intermediate Algebra.

Teaching Assistant

January 2014 – December 2014

- Lead out of class review sessions for single variable and multi-variate calculus classes.

Department Tutor

August 2012 – December 2014

- Tutored courses ranging from college algebra to multivariate calculus and statistics.

STUDENTS
ADVISED

Briana Kinner. Graduation: Expected Dember 2020

CONFERENCE
ATTENDANCE

AMS Mini-Conference on Education: Mathematics Departments and the Explosive Growth of Computational and Quantitative Offerings in Higher Education. October 25th, 2019.

EPaDel Careers in Mathematics Conference and Section NExT Symposium (Accompanied Two Students). October 5th, 2019.

PROFESSIONAL
SERVICE

Committee Service

- SIAM Subcommittee for Science and Engineering Fair

Judging

- Undergraduate Statistics Project Competition (USPROC)

UNIVERSITY
SERVICE

APSCUF

- Faculty contract ratification vote poll sitter

PROFESSIONAL
AFFILIATIONS

[American Statistical Association](#) (ASA)
[Mathematical Association of America](#)(MAA)
 — [EPaDel Section](#)
 — [Section NExT Member](#)
[American Mathematical Society](#)(AMS)
[Society for Advancement of Chicanos and Native Americans in Science](#) (SACNAS)

TECHNICAL
SKILLS

R package development and stochastic simulation

Programming: R (Including R Markdown), Julia, Wolfram (Mathematica), BUGS (Win-Bugs/OpenBugs), STAN, Shell, C++, SAS, SQL

Version Control: Git, [GitHub](#) user @GrantInnerst

Applications: Rstudio, T_EX / L^AT_EX / B_IB_TE_X, XCode, Microsoft Office

Operating Systems: Mac OS X, Microsoft Windows, Linux/Unix builds