

# Joshua T. Grice

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## Education

<b>Ph. D. Mathematics</b>	<b>University of South Carolina</b> (Columbia, SC) Dissertation area: Universal Algebra Advisor: George F. McNulty	Expected May 2020
<b>B. Sc. Mathematics</b>	<b>Virginia Commonwealth University</b> (Richmond, VA) Pure Mathematics concentration	May 2014

## Teaching

<b>Instructor of Record</b>	<b>University of South Carolina</b> Basic College Algebra (Fall 2015, Fall 2016, Spring 2017, Fall 2017, Spring 2020) Business Calculus (Summer 2015, Spring 2016) Finite Mathematics (Spring 2018) Discrete Mathematics for Computer Science (Fall 2019) Vector Calculus (Spring 2019) Elementary Differential Equations (Summer 2019)
<b>Teaching Assistant</b>	<b>University of South Carolina</b> Calculus 1 + Maple Lab (Fall 2014, Fall 2018) Calculus 2 + Maple Lab (Spring 2015, Spring 2018) <b>Virginia Commonwealth University</b> College Algebra (Summer 2013 through Spring 2014)
<b>Private Tutor</b>	Various undergraduate mathematics, Fall 2015-Spring 2020

## Research

My research interests are in the fields of universal algebra, model theory and logic. I have done research on Taylor and Mal'cev conditions, constraint satisfaction problems, and finite axiomatisability of varieties of congruence modular, congruence semi-distributive, and nilpotent algebras.

## Publications

*Axiomatisability of the Class of Monolithic Groups in a Variety of Nilpotent Groups* (accepted to the Bulletin of the Australian Mathematical Society) [Preprint](#)

*Axiomatisability of the Class of Subdirectly Irreducible Algebras in certain Nilpotent Varieties* [Preprint](#)

## Presentations

*Absorption and Loop Lemmas*, University of South Carolina Algebra & Logic Seminar, March 2017

*Mal'cev Conditions for Congruence Meet Semidistributivity, part 1, 2 and 3*, University of South Carolina Algebra and Logic Seminar, December 2018

*Finite Axiomatisability of Finite Monolithic Groups, parts 1 and 2*, University of South Carolina Algebra & Logic Seminar, March 2019

*Finite Axiomatisability of (some) Nilpotent Subdirectly Irreducible Algebras*, University of South Carolina Algebra & Logic Seminar, Fall 2019

*Axiomatisability of subdirectly irreducible members of congruence modular varieties generated by certain finite nilpotent algebras*, Speaker & Co-Chair at Joint Mathematics Meeting AMS Algebra and Algebraic Geometry Contributed Paper Session I, January 2020

## Conferences Attended

<i>Algebras and Algorithms</i> , University of Colorado Boulder	May 2016
<i>AMS Spring Southeastern Sectional Meeting</i> , College of Charleston	March 2017
<i>B.L.A.S.T. Conference</i> , Vanderbilt University	August 2017
<i>Algebras and Lattices in Hawai'i</i> , University of Hawai'i at Manoa	May 2018
<i>JMM Conference</i> , University of Denver	January 2020

## Grants, Scholarships & Awards

NSF Grant for study on the CSP Dichotomy Conjecture (with George McNulty)	May 2015-May 2018
Virginia Commonwealth University Provost Scholarship	August 2010-May 2014
Virginia Commonwealth University Dean's List	September 2010-May 2014
Virginia Commonwealth University Scholar	September 2010-May 2014

## Service

University of South Carolina High School Math Contest Grader,	2014-2015.
University of South Carolina High School Math Contest Question Writing Committee,	2019

## Skills

Dungeon Master	Interpersonal skills, group leadership experience, performance experience, improvisational thinking ability
Languages	Basic Spanish, basic Dutch, basic ASL, fluent English

## Memberships

American Mathematical Society
Pi Mu Epsilon Mathematics Society