Robert R. Vandermolen
Curriculum Vitae

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Education		
	Ph. D. Mathematics,	Expected: May 2020
	University of South Carolina, Columbia SC	
	Thesis Area: Algebraic Geometry	
	Advisor: Dr. Matthew Ballard	
	M.S. Mathematics,	May 2014
	College of Charleston, Charleston SC	
	Thesis: Bounded Operators on a Hilbert Space with finite $\mathbb{Z}$-grading	
	Advisor: Dr. Oleg Smirnov	
	B.S. Mathematics,	May 2012
	College of Charleston, Charleston SC	

Research

My research interest lie in the fields of Algebraic Geometry and Derived Geometry. Specifically in the applications of geometry to neural science and theoretical physics. I have worked with non-commutative algebras, specifically Lie algebras and studied derived equivalences pertaining categories of D-branes.

Submitted

R.R. Vandermolen,
Universal Embedding of Hom-Lie Triple Systems

In Preparation

M.R. Ballard, N. Chidambaram, D. Favero, P.K. McFaddin, R.R. Vandermolen,
Kernels for Grassmannian Flops

Teaching Experience

University of South Carolina
   Instructor of Record   2016-Present

Math 115: Pre-Calculus (Fall 2018)
Math 122: Business Calculus (Spring 2018, Fall 2017, Summer 2016)
Math 142: Vector Calculus (Summer 2017)
Math 111: College Mathematics (Fall 2016)
Math 170: Finite Mathematics (Spring 2016, Spring 2017)

College of Charleston   2011-2016
   Instructor of Record

Elementary Statistics (Fall, Spring 2015)
Pre-Calculus (Fall 2015)
College Algebra (Fall 2013, Spring 2014)

   Teaching Assistant

Advanced Calculus (Spring 2013)
Intro to Abstract Mathematics (Spring, Fall 2011, Spring 2012)

Mentoring	**Graduate Teaching Mentor** Fall 2018-Spring 2018

Graduate Teaching Mentor — Fall 2018-Spring 2018

Mentored Novice instructors as they transitioned from graduate teaching assistants to graduate student instructors. Conducted monthly observations of the instructors and held individual post observation meetings. Facilitated biweekly group meetings.
Funded by the NSF Award Id #????

Presentations

Contributed Talks

Kernels for Grassmannian Flops — September 2018
University of South Carolina, Algebraic Geometry Seminar

The Geometry of the Brain — September 2018
University of South Carolina, Pi Mu Epsilon Student Seminar

Finite Group Gradings and Compact Operators — October 2018
University of South Carolina, Analysis Seminar

Grants and Awards

Received Grants
2018-2019

Teaching Resource Development Grant
Center for Teaching Excellence, University of South Carolina
$500 award

Awards

Excellence in Teaching Award - Mathematics — 2016-2017
University of South Carolina

Peer Excellence Award - Mathematics — 2016-2017
University fo South Carolina

Outstanding First Year Award - Mathematics — 2015-2016
University of South Carolina

The Ewa Wojickicka Award - Mathematics — 2012
College of Charleston

Skills Accreditations and Memberships

American Mathematical Society
Student Member

Programing Languages
HTML, Maple, python, Swift, CSS

CRLA Certified
Mathematics Tutoring

Service	**Volunteer** AB/BA AP-Calculus Practice Exam University of South Carolina Proctored Exam	May 2018
	Event Coordinator 18th Annual High School Math Contest University of South Carolina	January 2018
	Event Coordinator College of Charleston Math Meet College of Charleston Math themed Scavenger Hunt	February 2015
	Volunteer Lowcountry Regional Science and Engineering Fair College of Charleston	2014–2015
	Volunteer Lady Cougars STEM Education Day College of Charleston designed and implemented interactive STEM workshop for middle school students	2014–2015

Conference Attended with Full Support	**Georgia Algebraic Geometry Symposium 2018** Georgia Tech
	7th Iberoamerican Congress on Geometry 2018 Univseridad de Valladolid
	Spring Southeastern Sectional Meeting AMS 2017 College of Charleston
	Workshop on Topics in Algebraic Geometry 2017 University of North Carolina (Chapel Hill)
	Georgia Algebraic Geometry Symposium 2017 University of Georgia
	Workshop and Symposium on Quadratic Forms 2017 University of Georgia
	Workshop on Symplectic Varieties and Geometric Representation Theory 2016 University of North Carolina (Chapel Hill)