

# ERIN DENETTE

University of Rhode Island Mathematics Department  
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## EDUCATION

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### University of Rhode Island, Kingston, RI

Ph.D. in Mathematics

May 2016

Thesis Advisor: Dr. Araceli Bonifant

Thesis Title: *Minimal Cantor Sets: The Combinatorial Construction of Ergodic Families and Semi-Conjugations*

M.S. in Mathematics

May 2012

### Fitchburg State University, Fitchburg, MA

B.S. in Mathematics with distinction *Summa Cum Laude*

May 2010

Concentration in Secondary Education

Minor in Business Administration

## TEACHING EXPERIENCE

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### Full-Time Lecturer

August 2015-present

*University of Rhode Island Mathematics Department*

### Graduate Teaching Assistant

August 2010-May 2015

*University of Rhode Island Mathematics Department*

## COURSES TAUGHT

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Served as the sole instructor for all classes listed.

MTH 099: Basic Algebra & Trigonometry ..... Fall 2011  
MTH 100X: Introductory & Intermediate Algebra ..... Fall 2016 - 3 sections, Spring 2017  
MTH 101: Intermediate Algebra ..... Spring 2013\*, Fall 2016, Spring 2017  
MTH 103: Applied Precalculus ..... Fall 2018  
MTH 108: Topics in Mathematics ..... Summer 2013<sup>†</sup>  
MTH 111: Precalculus ..... Fall 2010, Spring 2011 - 2 sections, Spring 2012,  
Summer 2014\*, Summer 2015\*, Fall 2017, Spring 2018  
MTH 131: Applied Calculus I ... Spring 2017, Fall 2017 - 2 sections, Spring 2018 - 2 sections  
Fall 2018 - 2 sections  
MTH 141: Calculus I ..... Fall 2012, Fall 2013, Spring 2014, Fall 2014,  
Spring 2016 - 3 sections, Summer 2017\*  
MTH 142: Calculus II ..... Spring 2015, Fall 2015 - 2 sections, Summer 2016\*,  
Spring 2017, Fall 2017  
MTH 243: Multivariable Calculus ..... Summer 2018  
MTH 244: Differential Equations\* ..... Fall 2015, Summer 2016, Summer 2017,  
Summer 2018

Class sizes during the regular semester were typically 40-50 students with some large sections of 120-150 taught as lecturer. For unmarked courses, creation of the syllabus, online homework assignments, and exams were the responsibility of a faculty member serving as coordinator.

\* Uncoordinated. Responsible for all aspects of the course.

† Summer course taught for disadvantaged, potential incoming freshmen.

## OTHER EXPERIENCE

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### Mathematics Tutor

May 2011-July 2015

*University of Rhode Island*

Provided tutoring for mathematics courses and the computer algebra system Mathematica.

### Mathematics Tutor/Mentor

Summers 2011-2015

*University of Rhode Island Talent Development Program*

Provided mathematics tutoring for the program, which provides financial assistance, preparatory summer classes, and mentoring to students of disadvantaged backgrounds who could not otherwise expect to be admitted to the university.

### Mathematics Tutor

September 2007-May 2010

*Fitchburg State University Academic Success Center*

Provided tutoring for undergraduate mathematics courses, the computer algebra system Maple, and the statistical software Minitab to the general student body and on an individual basis for students affiliated with the Multicultural Center and/or Disabilities Services.

## RESEARCH INTERESTS

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Real dynamical systems, discrete dynamical systems, local and global behavior of difference equations, topological dynamics, measurable dynamics, combinatorially obtained minimal Cantor sets.

## PUBLICATIONS

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1. *Birkhoff Normal Forms, KAM Theory and Time Reversal Symmetry for Certain Rational Map* (with M. R. S. Kulenović and E. Pilav), *Mathematics* **2016**, 4, 20
2. *The Construction of Semi-Conjugations Between Certain Combinatorially Obtained Minimal Cantor Sets* (In preparation with M. Martens)
3. *Constructing Ergodic Families of Combinatorially Obtained Minimal Cantor Sets* (In preparation with M. Martens)

## PRESENTATIONS

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*Semi-Conjugation Between Certain Combinatorially Obtained Minimal Cantor Sets* November 2017  
MAA Northeastern Section Meeting in Fairfield, CT

*Combinatorially Obtained Minimal Cantor Sets: Introduction and Recent Results* Spring 2017  
*Parts I, II, and III*  
University of Rhode Island Dynamics Seminar

*KAM Theory and Other Results Applied to a Certain System of Difference* November 2016  
*Equations*  
AMS Fall Eastern Section Meeting in Brunswick, ME

*Constructing Ergodic Families of Combinatorially Obtained Minimal Cantor Sets* January 2016  
Joint Mathematics Meetings in Seattle, WA

*On Existence of a Semi-Conjugation Between Certain Combinatorially Obtained* January 2016  
*Minimal Cantor Sets*  
Joint Mathematics Meetings in Seattle, WA

*Birkhoff Normal Form and KAM Theory for a Certain System of Difference* November 2015  
*Equations*  
AMS Fall Eastern Section Meeting in New Brunswick, NJ

<i>The Construction of a Non-Uniquely Ergodic Minimal Cantor Set</i> Joint Mathematics Meetings in San Antonio, TX	January 2015
<i>The Construction of a Non-Uniquely Ergodic Minimal Cantor Set</i> University of Rhode Island Difference Equations Seminar	October 2014

## OTHER CONFERENCES ATTENDED

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- June 2018 MAA Spring Northeastern Section Meeting
- June 2017 MAA Spring Northeastern Section Meeting
- January 2017 Complete College America Corequisite at Scale Rhode Island State Institute
- November 2016 MAA Fall Northeastern Section Meeting
- May 2015 IMS XXV celebrating 25 years of low-dimensional dynamics

## ADMINISTRATIVE EXPERIENCE & SERVICE ACTIVITIES

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### Course Coordination

*University of Rhode Island*

Served as course coordinator for

- MTH 103: Applied Precalculus (Fall 2018-present)
- MTH 131: Applied Calculus I (Fall 2017-present)

and course co-coordinator for

- MTH 243: Multivariable Calculus (Summer 2018)
- MTH 101: Intermediate Algebra (Spring 2017)
- MTH 100X: Introductory & Intermediate Algebra (Fall 2016-Spring 2017)
- MTH 108: Topics in Mathematics (Summer 2013)

### Committee Service

*University of Rhode Island*

- College of Arts & Sciences Curriculum Committee (Fall 2018-present)
- College of Arts & Sciences Ad Hoc Student Success Committee (Fall 2018-present)
- Mathematics Department Undergraduate Curriculum Committee (Fall 2016-present)

*Norwich University*

- External member for Internal Review Board and Research Ethics Committee (Summer 2018-present)

### Graduate Teaching Assistant Mentor

**September 2014-present**

*Mentor/Supervisor, University of Rhode Island*

Served as mentor to new graduate teaching assistants in the mathematics department. Periodically observed lectures and provided pedagogical feedback and support.

### General Education Program

**Spring 2018**

*University of Rhode Island*

Served as faculty participant in the Math and Computational Assessment Academy and the faculty representative for MTH 131 at the General Education Course Fair.

### Open Source Calculus Team

**Spring 2018**

*Member, University of Rhode Island*

Part of a small team of faculty responsible for researching and evaluating open source materials, including WeBWoRK assignments, for possible use in the calculus sequence.

**URI Calc Bowl** **April 2012-2017**  
*Organizational Staff, University of Rhode Island*

Recruited calculus students to participate in and helped run the Calc Bowl, a lively team-based calculus competition among groups of calculus students from URI and local high schools.

**Co-Requisite Experiment Team** **Summer 2016-Summer 2017**  
*Member, University of Rhode Island*

Served as co-developor of and instructor for an experimental college algebra course which followed a co-requisite model for remediation. The goal of the course was to help underprepared students succeed by providing additional support not typically given in other college algebra courses.

**SPIN+ Program** **September 2014-May 2016**  
*Mentor/Liaison, University of Rhode Island*

Served as mentor and interdepartmental liaison for a growing cohort of undergraduate students from underrepresented groups in the fields of Computer Science, Computer Engineering, and Mathematics who were selected to receive a scholarship from the Scholarship Program to Increase Numbers and Strengthen the Workforce in Technology and Mathematics (SPIN+).

**Joint Mathematics Meetings** **January 2016**  
*Session Chair*

Served as a session chair for the AMS Session on Dynamical Systems and Ergodic Theory II at the 2016 Joint Mathematics Meetings in Seattle, WA.

**Precalculus Competency Exam Team** **Fall 2013-Spring 2014**  
*Administrator, University of Rhode Island*

Worked in collaboration with the MTH 141 coordinator to create and administer Precalculus Competency Exams designed to ensure that students had the proper prerequisite knowledge.

**COMAP Contest in Mathematical Modeling** **February 2014**  
*Advisor, University of Rhode Island*

Served as the advisor to the university's undergraduate team for the Consortium for Mathematics and Its Applications (COMAP) Contest in Mathematical Modeling.

**Northeast Regional Math Modeling Challenge** **September 2013**  
*Organizational Staff, University of Rhode Island*

Jointly responsible for all local arrangements for a 24-hour mathematics modeling challenge.

## OUTREACH ACTIVITIES

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**URI Summer Program for NECAP Preparedness** **Summer 2013**  
*Program Staff, University of Rhode Island*

Part of a small team responsible for monitoring the online progress on selected objectives in Khan Academy of approximately 60 Cranston East High School students struggling with New England Common Assessment Program (NECAP) preparedness. Additionally organized and executed an initial visit to URI and a separate summer workshop at URI for these students.

## AWARDS AND HONORS

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- Beaupre Hope & Heritage Award (2014, 2015, 2016)
- Robert Sine Memorial Award for Excellence in Teaching Mathematics (2015)
- Who's Who Among Students in American Colleges and Universities (2010)
- President's List (2007-2010)
- Dean's List (2006-2010)

- Fitchburg State University Mathematics Department Scholarship (2009)
- Coast Guard Foundation Scholarship (2009)
- International Peer Tutor Certification by College Reading and Learning Association (2009)
- President's Scholar (2007, 2008)
- Pi Mu Epsilon National Mathematics Honor Society (inducted 2008)

## COMPUTER SKILLS

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Extensive experience using the following for teaching and/or research purposes.

**Computer Algebra Systems:** Maple, Mathematica

**Statistics Software:** Minitab

**Online Homework Systems:** ALEKS, MyMathLab, WeBWorK, WileyPLUS

**Ipad Educational Apps:** ShowME, Explain Everything

**Other:** L<sup>A</sup>T<sub>E</sub>X, Microsoft Office

## PROFESSIONAL AFFILIATIONS

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- American Mathematical Society (AMS)
- Mathematical Association of America (MAA)