

# Stephen Deterding

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## Education

Ph.D. Mathematics, University of Kentucky, May 2018 (Anticipated)

- Dissertation topic: Bounded point derivations on certain function spaces
- Advisor: James Brennan

M.A. Mathematics, University of Kentucky, 2014

B.S. Mathematics/Applied Mathematics, Marshall University, 2012: Graduated Magnum Cum Laude from the Honors College

## Research Interests:

Complex Analysis, Rational Approximation, Banach Algebras, Uniform Algebras, Several Complex Variables, Nevanlinna Theory

## Publications:

**A formula for a bounded point derivation on  $R^p(X)$**  submitted. Available at <http://arxiv.org/abs/1709.04050>.

**Bounded point derivation on  $R^p(X)$  and approximate derivatives** Math. Scand. (accepted). Available at <http://arxiv.org/abs/1709.02851>.

**Interpolation and cubature at the Morrow-Patterson nodes generated by different Geronimus polynomials**, with L. Harris. *Mathematical Proceedings of the Royal Irish Academy* Vol. 117A, No. 1 (2017), pp. 5-12

## Teaching

### *Classes Taught as Primary Instructor*

Duties included lecturing and leading class discussions, writing and grading homework problems, writing and grading exams, designing syllabuses, holding office hours, and answering emails.

**Matrix Algebra (MA 322):** Summer 2015. Taught one section.

**Problem Solving for Middle School Teachers (MA 308):** Spring 2016. Taught one section.

**Math for Elementary Teachers II (MA 202):** Spring 2015. Taught two sections.

**Math for Elementary Teachers I (MA 201):** Fall 2015. Taught two sections.

**Finite Mathematics (MA 162):** Summer 2013. Taught one section.

**Calculus II (MA 114):** Summer 2014. Taught one section.

**Calculus I (MA 113):** Summer 2016. Taught one section.

**Introduction to Contemporary Mathematics (MA 111):** Spring 2017. Taught two sections.

**College Algebra (MA 109):** Fall 2014, Summer 2017, Fall 2017. Taught two sections in Fall 2014, one online section in Summer 2017, and two sections in Fall 2017.

### *Classes Taught as Recitation Instructor*

Duties included leading a recitation section, writing and grading quizzes, writing worksheets, grading exams, holding office hours, working in the mathskeller tutoring center, and answering emails.

**Calculus II Recitation (MA 194):** Fall 2013. Taught two sections.

**Calculus I Recitation (MA 193):** Fall 2012, Spring 2013. Taught two sections both semesters.

**Finite Mathematics Recitation (MA 162):** Spring 2014. Taught three sections.

**Calculus I with Life Science Applications Recitation (MA 137):** Fall 2016. Taught two sections.

### Service and Outreach

**Julia Robinson Mathematics Festival committee member** University of Kentucky, 2017.

**Peer Mentor for a first year graduate student** University of Kentucky, 2016-2017.

**Math Movie of the Month graduate assistant** University of Kentucky, 2015-2016.

### Presentations

#### **Computational Methods and Function Theory:**

- *Bounded point derivations on  $R^p(X)$* , Maria Curie-Skłodowska University July 2017.

#### **Ohio River Analysis Meeting:**

- *Bounded point derivations on  $R^p(X)$  and approximate derivatives*, University of Cincinnati March 2017.

#### **Southeastern Analysis Meeting:**

- *Bounded point derivations on  $R^p(X)$  and approximate derivatives*, University of Tennessee March 2017.

#### **Infinite Dimensional Analysis: Celebrating Richard Aron's Work and Impact:**

- *Bounded point derivations on  $R^p(X)$  and approximate derivatives*, Poster Session; Kent State University, October 2016.

#### **Midwestern Workshop on Asymptotic Analysis:**

- *Bounded point derivations on  $R^p(X)$  and approximate derivatives*, Poster Session; Indiana University-Purdue University Indianapolis, October 2017.

**University of Kentucky Analysis Seminar:**

- *Bounded point derivations on certain function spaces*, University of Kentucky, September 2017.
- *DeBranges' proof of the Bieberbach conjecture (Master's Talk)*, University of Kentucky, April 2014.

**University of Kentucky Graduate Student Colloquium:**

- *The Hartogs Extension Phenomenon*, University of Kentucky, November 2017.
- *A one line proof of Picard's theorem via Nevanlinna theory*, University of Kentucky, November 2016.
- *What are the Split-Complex Numbers?*, University of Kentucky, October 2015.
- *The Swiss Cheese*, University of Kentucky, June 2015.
- *What do you get if you add up all the counting numbers?*, University of Kentucky, April 2015.
- *Palindromes, Lychrel Numbers, and the 196 Conjecture*, University of Kentucky, September 2014.
- *An Introduction to the Bieberbach Conjecture*, University of Kentucky, January 2014.
- *The First Main Theorem of Nevanlinna Theory*, University of Kentucky, September 2013.
- *An Introduction to Discrete Dynamical Systems*, University of Kentucky, January 2013.

## Conferences Attended

**Computational Methods and Function Theory 2017:** Maria Curie-Skłodowska University, Lublin, Poland, July 2017.

**Joint Mathematics Meetings:** San Diego, California, January 2018 (upcoming).

**Midwest Several Complex Variables Conference:**

- Brown University, June 2017.
- University of Toledo, May 2016.

**Southeastern Analysis Meeting:** University of Tennessee, March 2017.

**Infinite Dimensional Analysis: Celebrating Richard Aron's Work and Impact:** Kent State University, October 2016.

**Midwestern Workshop on Asymptotic Analysis:**

- Indiana University-Purdue University Indianapolis October 2017.
- Indiana University-Purdue University Fort Wayne October 2016.
- Indiana University October 2015.

**Ohio River Analysis Meeting:**

- University of Cincinnati, March 2017.
- University of Kentucky, March 2016.
- University of Cincinnati, February 2015.
- University of Kentucky, March 2014.
- University of Cincinnati, March 2013.

**Fall Meeting of the Ohio Section of the MAA:** Ursuline College, October 2010.

**Undergraduate Mathematics Day:** University of Dayton, November 2009.

## Grants, Fellowships, and Awards

**Financial support to attend 2018 Joint Mathematics Meetings**

**Financial support to attend Computational Methods and Function Theory 2017 Conference**

**Max Steckler Fellowship**, University of Kentucky, 2016.

**Outstanding Math Major Award**, Marshall University, 2012.

**Outstanding Applied Math Major Award**, Marshall University, 2011.

## Professional Memberships

**American Mathematical Society**, Member since 2012.

**Society for Industrial and Applied Mathematics**, Member since 2015.

**Mathematical Association of America**, Member since 2017.

## Undergraduate Research Experience

**Marshall University Differential Analyzer Project:** Worked with Dr. Bonita Lawrence and assisted her in research with a machine known as a differential analyzer which uses mechanical integration to solve differential equations. Was part of a team that helped build a new differential analyzer to be used in research. Also worked with Dr. Lawrence to set up both linear and nonlinear differential equations to be solved by the differential analyzer.

**2011 COMAP Modeling Contest:** Participated with two other students as part of a Marshall University team for the COMAP Modeling contest.

**Undergraduate Capstone:** Studied differential equations on the complex plane, focusing mainly on the existence and uniqueness of solutions. Also wrote a paper summarizing my studies and gave a fifteen minute presentation.

## Other Employment

**Marshall University Math Tutoring Center** 2011-2012. Worked in the tutoring center and helped students in a variety of undergraduate math courses.

## References

Benjamin Braun, University of Kentucky, benjamin.braun@uky.edu

James Brennan, University of Kentucky, james.brennan@uky.edu

Lawrence Harris, University of Kentucky, larry@uky.edu

Alexander Izzo, Bowling Green State University, aizzo@bgsu.edu

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