

KATIE SPURRIER QUERTERMOUS

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EDUCATION

University of Virginia, Charlottesville, VA

Ph.D. Candidate in Mathematics Expected May 2010
Dissertation Title: *Fixed point composition C^* -algebras*
Advisor: Thomas Kriete
M.S. Mathematics May 2006

University of South Carolina, Columbia, SC

B.S. Mathematics May 2004
Phi Beta Kappa, Summa Cum Laude, With Honors from South Carolina
Honors College
Honors Thesis Title: *Continuous nowhere differentiable functions*

RESEARCH INTERESTS

Operator Theory, including C^* -algebras, composition operators, and Toeplitz operators, Complex and Functional Analysis, and Operator Algebras

PUBLICATION

A semigroup composition C^ -algebra*, submitted, arXiv:0909.0956.

FELLOWSHIPS AND AWARDS

Graduate School of Arts and Sciences Dissertation Year Fellowship, University of Virginia 2009–2010
Robert J. Huskey Travel Fellowship, University of Virginia 2009
Honorable Mention, Department of Mathematics Graduate Teaching Award, University of Virginia 2009
GAANN Fellowship, University of Virginia 2004–2009
Vincent Mastracco Fellowship, University of Virginia 2006, 2007, 2009
Edwin E. Floyd Fellowship, University of Virginia 2009
Travel Grant to attend the Joint Mathematics Meetings, Carleton College Summer Mathematics Program for Women 2009
President's Fellowship, University of Virginia 2004–2008
Philip Francis du Pont Fellowship, University of Virginia 2004–2005
Barry M. Goldwater Scholar, Barry M. Goldwater Scholarship and Excellence in Education Program 2002

CONFERENCE TALKS

Fixed point composition C^ -algebras* (Scheduled), Joint Mathematics Meetings, San Francisco, CA, January 2010.

CONFERENCE TALKS, *continued*

Composition C^ -algebras induced by linear-fractional non-automorphisms fixing a boundary point*, Invited Talk, Virginia Operator Theory and Complex Analysis Meeting, Virginia Commonwealth University, Richmond, VA, November 2009.

A C^ -algebra generated by a semigroup of composition operators*, Great Plains Operator Theory Symposium, University of Colorado at Boulder, Boulder, CO, June 2009.

A C^ -algebra generated by a semigroup of composition operators*, Southeastern Analysis Meeting, University of South Florida, Tampa, FL, March 2009.

OTHER TALKS

Teaching the First Days of Class, Teaching Resource Center August Teaching Workshop, University of Virginia, August 2009.

An introduction to crossed products of C^ -algebras*, Seminar in Operator Theory and Operator Algebras, University of Virginia, April 2009.

Developing and showcasing your teaching philosophy, Department of Mathematics Teaching Seminar, University of Virginia, September 2008.

C^ -algebras, operators, and almost periodic functions*, Department of Mathematics Graduate Seminar, University of Virginia, September 2008.

A lower bound on the essential norm of a difference of composition operators, Seminar in Operator Theory and Operator Algebras, University of Virginia, April 2008.

Almost periodic functions, Department of Mathematics Graduate Seminar, University of Virginia, October 2007.

An introduction to composition operators, Department of Mathematics Graduate Seminar, University of Virginia, October 2006.

On the Toeplitzness of composition operators, Operator Theory Seminar, University of Virginia, September 2006.

CONFERENCES ATTENDED

MAA MD–DC–VA Section Meeting, Goucher College, Baltimore, MD, November 2009.

East Coast Operator Algebras Symposium, Texas A&M University, College Station, TX, October 2009. Funded participant.

Career Mentoring Workshop, Wheaton College, Norton, MA, July 2009. Funded participant.

MAA MD–DC–VA Section Meeting, University of Mary Washington, Fredericksburg, VA, April 2009.

Joint Mathematics Meetings, Washington, DC, January 2009.

International Workshop on Operator Theory and its Applications, College of William and Mary, Williamsburg, VA, July 2008.

Great Plains Operator Theory Symposium, University of Cincinnati, Cincinnati, OH, June 2008. Funded participant.

Joint Mathematics Meetings, San Diego, CA, January 2008.

Virginia Operator Theory and Complex Analysis Meeting, University of Richmond, Richmond, VA, November 2007.

Classical Analysis Conference, University of North Carolina, Chapel Hill, NC, September 2007. Funded participant.

CONFERENCES ATTENDED, *continued*

Southeastern Analysis Meeting, University of Richmond, Richmond, VA, March 2007. Funded participant.

Southeastern Analysis Meeting, University of Florida, Gainesville, FL, March 2006. Funded participant.

TEACHING EXPERIENCE

University of Virginia

Calculus II, Instructor 2007–2008, Fall 2008

Had full responsibility for the course. Taught approximately 30 students per semester, primarily math and science majors. Implemented an online system to assess student understanding of lectures. Designed weekly written and online assignments. Supervised a teaching assistant. Assisted the course coordinator with the course layout for all sections in Fall 2008.

Mathematical Modeling, Co-instructor Summer 2008

Taught 14 students, primarily math and science majors. Prepared and presented lectures on mathematical models and LaTeX. Provided guidance on competing in mathematical modeling competitions. Advised students on final projects. Graded final presentations and papers from the class modeling competition.

Applied Calculus I and II, Instructor 2005–2006, 2006–2007

Had full responsibility for the course. Taught three semesters of Applied Calculus I and one semester of Applied Calculus II. Taught 23–40 students per semester, primarily economics, business, and pre-medicine majors. Designed written and online assignments and projects to enhance student learning. Created supplemental materials to accompany the textbook and lectures.

Calculus III, Teaching Assistant Summer 2006

Led a daily problem session. Answered student questions.

OUTREACH

Sonja Kovalevsky Mathematics Day (Scheduled), Worcester Polytechnic Institute Department of Mathematics, Instructor 2009

A program for middle and high school girls. Will include workshops and problem-solving competitions.

ExxonMobil Bernard Harris Summer Science Camp, University of Virginia Center for Diversity in Engineering, Math Challenge Instructor 2009

A two-week mathematics, science, and engineering camp for middle school students. Math challenge sessions used number theory, geometry and algebra puzzles to emphasize problem solving.

Introduction to Engineering, University of Virginia Center for Diversity in Engineering, Calculus Workshop Instructor 2009

A one-week camp for rising high school juniors and seniors who are interested in engineering. Included a daily Calculus workshop introducing students to derivatives and their applications.

Sonja Kovalevsky Mathematics Day, University of Virginia Department of Mathematics, Instructor 2007–2009

An annual program for middle and high school girls. Included workshops and problem-solving competitions.

UVA Mathematical Contest in Modeling, University of Virginia Department of Mathematics, Judge and Instructor 2007, Co-organizer 2008

A mathematical modeling competition for undergraduate students based on the COMAP Mathematical Contest in Modeling.

OUTREACH, *continued*

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- Mathematics and Science Day**, University of Virginia Young Women Leaders Program, Instructor 2008
A workshop for seventh-grade girls. Topics included mathematical puzzles and regular polyhedra.
- Girls and Mathematics Summer Program**, University of Virginia Department of Mathematics, Instructor 2007
A one-week day camp for middle school girls run by female professors and graduate students. Introduced students to advanced topics, emphasized problem solving, and encouraged girls to continue studying math.
- Virginia Piedmont Regional Science Fair**, Judge 2007
A regional science fair affiliated with the Intel International Science and Engineering Fair.
- Science Badge Workshop**, University of Virginia Campus Girl Scouts, Instructor 2006
A one-day workshop for Junior Girl Scouts. Topics included geometry, binary numbers, and probability.

UNIVERSITY SERVICE

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- University of Virginia**
- Department of Mathematics Graduate Seminar**, Co-organizer 2007–present
- Graduate School of Arts and Sciences Graduate Student Council**, Mathematics Department Representative 2007–2008

PROFESSIONAL DEVELOPMENT

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- Tomorrow's Professor Today**, University of Virginia 2006–2009
A professional development program for graduate students administered by the Teaching Resource Center. Attended workshops on teaching and the academic profession. Consulted with peers and faculty.

ADDITIONAL UNDERGRADUATE EXPERIENCE

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- Research Experience for Undergraduates**, College of William and Mary, Department of Mathematics 2002
Studied the properties of ray-nonsingular matrices. Characterized all ray-nonsingular matrices with non-zero entries up to size 3×3 . Advisor: Chi-Kwong Li
- Undergraduate Research**, University of South Carolina, South Carolina Honors College Undergraduate Research Fellowship and South Carolina EPSCoR Undergraduate Research Program 2001–2002
Studied the SIR model for the spread of infections in a population with the goal of determining optimal vaccination strategies. Advisor: Douglas Meade
- Summer Mathematics Program for Women**, Carleton College and St. Olaf College 2001
A four-week program for freshman and sophomore women interested in mathematics. Participated in classes on dynamical systems and knot theory. Attended problem-solving sessions and colloquia.

AFFILIATIONS

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- American Mathematical Society
Association for Women in Mathematics

CITIZENSHIP

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- United States of America