

Department of Mathematics
P.O. Box 400137
University of Virginia
Charlottesville, Virginia 22904-4137

Phone: (434)982-2786 (office)
(864)617-1218 (home)
E-mail: kheller@virginia.edu
<http://people.virginia.edu/~kch3c/>

Katherine C. Heller

Education

Ph.D. candidate in Mathematics expected May 2010
University of Virginia-Charlottesville, Virginia
Dissertation advisor: Barbara MacCluer

M.S. in Mathematics May 2006
University of Virginia-Charlottesville, Virginia

B.S. in Mathematics May 2004
University of South Carolina-Columbia, SC

Teaching Experience

Graduate Teaching Assistant and Graduate Instructor Fall 2004-present
Department of Mathematics, University of Virginia

- Taught Calculus I (Fall 2007), Calculus II (Fall 2008, Spring 2009), Applied Calculus I (Fall 2005, Spring 2006, Fall 2006), Applied Calculus II (Spring 2007, Spring 2008)

Size of classes typically 40 students. Responsibilities included the organization and lecturing on class topics, writing quizzes and homework assignments, assisting in the writing of exams, holding office hours, and assigning grades. In Fall 2007, Fall 2008, and Spring 2009, also supervised a teaching assistant who ran the class problem session.

- Teaching assistant for Calculus II (Fall 2004, Spring 2005)

Size of classes typically 40 students. Responsible for running problem sessions, writing and grading quizzes, holding office hours.

Tutor Fall 2007-Fall 2008
University of Virginia

Tutored an associate professor in the department of politics at the University of Virginia. He learned mostly through personal study, but weekly meetings were held to answer questions and work problems.

Undergraduate Teaching Assistant
Department of Mathematics, University of South Carolina

Fall 2003

- Taught Calculus II

Size of classes typically 30 students. Responsibilities included running the problem session, the organization and lecturing on class topics, assisting in the grading of exams, holding office hours.

Teaching Awards and Honors

Winner of All-University Graduate Teaching Assistant Award
University of Virginia 2008-2009

Winner of Departmental Teaching Award
Department of Mathematics, University of Virginia 2008-2009

Finalist for Departmental Teaching Award
Department of Mathematics, University of Virginia 2007-2008

Finalist for the Seven Society Fellowship for Superb Teaching
University of Virginia 2005-2006

Semifinalist for the Seven Society Fellowship for Superb Teaching
University of Virginia 2004-2005

Featured in an Article for A&S Online Magazine.

High Anxiety: Mathematics grad student Katherine Heller's passion for teaching helps students overcome their fears. April 2009 (see <http://aands.virginia.edu/x15232.xml>).

Teaching and Outreach

Girls and Math
University of Virginia

Summer 2006, 2007, 2008

Girls and math is a week-long mathematics camp for girls in grades 5th through 8th (see http://people.virginia.edu/~im3p/girlsandmath_2008.html). The program allows talented and enthusiastic middle school girls from the local area to explore several aspects of mathematics not covered by the traditional school curriculum and to sharpen their problem solving skills. I was directly involved in the workshops, leading several sessions on problem solving, geometry, exponents and logarithms, and numerical bases including games and mathematical puzzles. Approximately 85 participants.

Girls and Math
Worcester Polytechnic Institute-Worcester, MA

Summer 2009

As assistant director for Girls and Math 2009 at WPI, I was involved in choosing topics for the program, coordinating with and overseeing other instructors, and running problem sessions on topics such as modular arithmetic and cryptography. 50 participants.

Sonja Kovalevskya Mathematics Day
University of Virginia

Spring 2007, 2008, 2009

The Sonja Kovalevskya Mathematics Day is a day-long program of talks, workshops and competitions sponsored by the Association for Women in Mathematics (see <http://people.virginia.edu/~im3p/09SonjaKovalevskaya.html>). Its purpose is to encourage young women to continue in their study of mathematics, assist secondary mathematics teachers, and encourage collaboration between the university and local high school and middle schools. I assisted in the day's activities, including leading a workshop on continued fractions. Approximately 75 participants.

Service

Graduate Student Associate
Teaching Resource Center, University of Virginia

Fall 2008-Spring 2009

Duties included participating in developing and offering various programs: August and January Teaching Workshops for U.Va. TAs and faculty; department-specific workshops, seminars, and discussion groups; interdepartmental symposia, workshops, and discussion luncheons; and consultations with individual teachers. When invited by a colleague, I conducted Teaching Analysis Polls with students and videotaped or observed TAs in their classrooms and then discussed what worked, what could be improved, and how to implement changes.

Invited Panelist
Graduate Student Workshop, University of Virginia

March 2009

*Developing Authority in the Classroom as a Graduate Student Instructor:
Practical Issues*

Active participant in Operator Theory Seminar
Department of Mathematics, University of Virginia

Fall 2005-present

Language Coordinator
Department of Mathematics, University of Virginia

Fall 2007-Spring 2008

Attended lectures of Chinese graduate students in Applied Calculus I (Fall 2007, Spring 2008) and Applied Calculus II (Spring 2008) to assist in communication between instructor and students.

Professional Affiliations

Member of the American Mathematical Society (AMS)

Teacher Development Talks

August Teaching Workshop
University of Virginia

- *Teaching the First Days of Class*. Teaching Resource Center, August 2008.
- *Difficult Classroom Situations*. Teaching Resource Center, August 2008.

Teaching Seminar Presentations
Department of Mathematics, University of Virginia

- *Transitioning from TA to Graduate Instructor*. Spring 2009.
- *How to Have a Positive Teaching Experience*. Fall 2006, Fall 2007.

Mathematical Talks

Operator Theory Seminar Presentations
University of Virginia

- *Weighted Composition Operators on Spaces of Functions whose Derivative is in a Hardy Space*. Fall 2008.
- *Adjoints of Rationally Induced Composition Operators*. Spring 2008.
- *Adjoints of Composition Operators on Hilbert Spaces of Analytic Functions*. Spring 2007.
- *Composition Operators with Maximal Norm on Weighted Bergman Spaces*. Spring 2006.

Math Club Presentations
University of Virginia

- *A Jigsaw Puzzle: Splitting Rectangles Into Squares and an Introduction to Continued Fractions*. April 2009.

Johns Hopkins University Center for Talented Youth Presentation
University of Virginia

- *The Beauty of Irrationality: The Golden Ratio and Fibonacci Numbers*. Pathways to College. Classroom Experience Workshop, February 2009.

Undergraduate Presentations

- *Properties of the Real Number Radio Channel Assignment for Infinite Triangular Lattices*. Furman Undergraduate Mathematics Conference. Furman University, Greenville, SC, March 19, 2004.
- *Properties of the Real Number Radio Channel Assignment for Infinite Triangular Lattices*. Faculty Seminar. University of South Carolina, Columbia, SC, Spring 2004.

Conferences Attended

Funded participant at Southeastern Analysis Meetings

- University of South Florida March 20-22, 2009
- University of Richmond March 9-11, 2007
- University of Florida-Gainesville March 1-5, 2006

Attended the Joint Mathematics Meetings

- Washington, D.C. January 5-8, 2009

Attended the International Workshop on Operator Theory and its Applications

- College of William and Mary July 22-26, 2008

Citizenship

United States: Born in Anderson, SC

References

Barbara MacCluer
Professor of Mathematics
University of Virginia
P.O. Box 400137
Charlottesville, VA 22904-4137

Donald Ramirez
Chairman, Professor of Mathematics
University of Virginia
P.O. Box 400137
Charlottesville, VA 22904-4137

Irina Mitrea
Associate Professor of Mathematics
Worcester Polytechnic Institute
100 Institute Road
Worcester, MA 01609-2280