

RACHEL EPSTEIN

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EDUCATION

Ph.D. in Mathematics, University of Chicago, Chicago, IL *Expected June 2010*
Advisors: Robert Soare and Denis Hirschfeldt

M.S. in Mathematics, University of Chicago, Chicago, IL *December 2005*

B.A. in Mathematics, Reed College, Portland, OR *May 2004*

AWARDS AND GRANTS

Association for Women in Math Funded Workshop Participant *January 2010*
(Workshop for Graduate Students and Recent Ph.D.'s at the Joint Mathematical Meetings, San Francisco, CA)

Kowalsky Fellowship for Women in Math *2009-2010*
(University of Chicago Department of Mathematics)

Association for Symbolic Logic Graduate Student Travel Grant *July 2009*
(Logic Colloquium, Bern, Switzerland)

RESEARCH AND PUBLICATIONS

“Computationally Enumerable Degrees of Prime Models”, R. Epstein, *Journal of Symbolic Logic*, Vol. **73** (2008), pages 1373–1388.

“Invariance and Automorphisms of the Computationally Enumerable Sets”, (in preparation).

INVITED TALKS

Invariance and Automorphisms

Midwest Computability Seminar, University of Chicago, September 29, 2009.

Prime Models of Computationally Enumerable Degree

Graduate Student Conference in Logic, University of Illinois, Chicago, April 28, 2007.

CONTRIBUTED AND INTERNAL TALKS

Prime Models of Computationally Enumerable Degree

Association for Symbolic Logic European Summer Meeting, University of Bern, Switzerland, July 3, 2008.

An Introduction to Computable Model Theory from the Perspective of Vaught's Models

Chicago Joint Logic Seminar, University of Illinois, Chicago, January 31, 2008.

Continuity of Prime Models of C.E. Degree

Logic Seminar, University of Chicago, October 19, 2007.

CONTRIBUTED AND INTERNAL TALKS, CONTINUED

Existence and Uniqueness of Algebraic Closure

Reverse Mathematics Seminar, University of Chicago, October 27, 2006.

C.E. Degrees of Prime Models

Topic Exam lecture, University of Chicago, May 12, 2006.

Bounding Prime Models

Logic Seminar, University of Chicago, November 4, 2005.

Degrees of Structures

Logic Seminar, University of Chicago, April 22, 2005.

ADDITIONAL CONFERENCES ATTENDED

Reverse Mathematics Workshop: Foundations and Applications

University of Chicago, November 6-8, 2009.

Midwest Computability Seminars

University of Chicago, September 23 and November 11, 2008, February 3 and April 21, 2009.

Effective Mathematics of the Uncountable

CUNY Graduate Center, New York City, August 18-22, 2008.

Summer School in Algorithmic Randomness

University of Florida, Gainesville, FL, June 9-19, 2008.

AMS Sectional Meeting, Special Session on Advances in Algorithmic Methods for Algebraic Structures

Middle Tennessee State University, Murfreesboro, TN, November 3-4, 2007.

FRG Workshop in Algorithmic Randomness

University of Chicago, September 15-19, 2007.

Computability in Europe

University of Siena, Italy, June 18-23, 2007.

AMS Sectional Meeting, Special Session on Model Theory and Computability

University of Notre Dame, South Bend, IN, April 8-9, 2006.

TEACHING EXPERIENCE

Lecturer, University of Chicago

September 2006 - Present

- Studies in Mathematics
- Linear Algebra
- Elementary Functions and Calculus

Taught courses to undergraduate social science majors and freshmen in a variety of disciplines. Lectured, prepared homework assignments, wrote and graded exams, held office hours, and oversaw undergraduate tutors and graders.

- Honors Calculus

Led an honors calculus course taught using the method of Inquiry Based Learning (IBL), where the students do all of the lecturing in class. Guided class discussion, prepared course notes, homework, and quizzes, graded course journals, administered oral exams, and supervised a graduate student teaching assistant.

TEACHING EXPERIENCE, CONTINUED

Lecturer, Young Scholars Program

January 2008 - March 2008

Prepared materials and lectured to a group of Chicago area middle school students in topics such as graph theory and cryptography. Supervised several undergraduate counselors.

Teaching assistant, SESAME

March 2008 - June 2009

Assisted with Number Theory, Probability, and Algebra I courses taught to middle school teachers. Prepared and graded homework, wrote and graded exams, and led a discussion session at the beginning of class.

Mentor, Directed Reading Program, University of Chicago

September 2005 - January 2008

Advised undergraduate research projects on the axiom of choice, Gödel's Incompleteness Theorem, and computability theory. Chose texts and articles for the students to study and assisted them to prepare short talks.

College Fellow, University of Chicago

September 2005 - June 2006

Assisted with Algebra course covering abstract and linear algebra, intended for math majors in their third year. Duties included grading homework, leading weekly problem sessions, holding office hours, and assisting with grading the exams.

ACADEMIC SERVICE

University of Chicago chapter of the Association for Women in Mathematics

President

June 2009 - Present

Treasurer

September 2007 - June 2009

Coordinator, University of Chicago Mathematics Graduate Warm-Up Program

September 2006

PROFESSIONAL AFFILIATIONS

American Mathematical Society

Association for Symbolic Logic

Association for Women in Mathematics