

**Ksenija Simic-Muller**  
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## Employment

- **University of Arizona, 2007-2008**  
Adjunct instructor
- **University of Arizona, 2004-2007**  
Teaching post-doctoral fellow in the Mathematics Department  
Post-doctoral Fellow at the Center for the Mathematics Education of Latinos/as (CEMELA)

## Education

- Carnegie Mellon University, PhD in Mathematics, May 2004  
PhD thesis: "Aspects of ergodic theory in subsystems of second-order arithmetic"  
Advisor: Jeremy Avigad
- Carnegie Mellon University, MS in Mathematics, May 2000
- University of Belgrade, BS in Theoretical Mathematics with Applications, September 1997

## Professional development

- Participated in the CEMELA Retreat (May 2005), CEMELA School (January 2006), CEMELA Research symposium (January 2007)
- Participated in Education and Mathematics education classes (2004-2006)

## Research interests

- **Mathematical logic:** proof theory, formalization of analysis in weak subsystems of second-order arithmetic, intuitionist and constructive analysis
- **Mathematics education:** equity in education, out-of-school learning environments, teaching mathematics for social justice, curriculum development

## Teaching experience

- Adjunct instructor, University of Arizona, 2007-2008
- Teaching post-doctoral fellow, University of Arizona, 2004-2007
- Summer course instructor, Carnegie Mellon, 1999-2002 (6 semesters)
- Recitation instructor, Carnegie Mellon, 1998-2004 (12 semesters)
- Recitation instructor at the University of Belgrade, 1997-1998 (2 semesters)

**Courses taught:** Mathematics in Modern Society, Business Mathematics (A), Calculus Preparation, Calculus I and II, Intro to Linear Algebra, Matrix Algebra, Discrete Mathematics, Understanding Elementary Mathematics (A and B), Mathematical Logic, Geometry and Measurement for K-8 Teachers.

Course information is available in the teaching portfolio. Course materials are available at <http://math.arizona.edu/~ksimic>.

## Teaching-related activities

- **CEMELA, 2005-2007**

**Duties:** coordinating, curriculum planning, facilitating, supervising undergraduate facilitators and conducting research in an after-school Math Club for Latino/a students, grades 3-6; preparing students for math competitions; planning the curriculum and teaching geometry and topics courses for in-service middle-school teachers.

- **Undergraduate Research Program, 2005-2007**

**Duties:** helping undergraduate students choose, research, and write final reports or papers on topics in mathematical logic (one paper published in an undergraduate mathematics journal); presenting in the undergraduate research seminar.

- **Teaching Assistant Training, 2005-2007**

**Duties:** co-teaching a class for first-time teaching assistants; helping with new teaching assistant training in the summer; giving feedback to graduate students on their teaching; supervising graduate teaching assistants.

- **Summer Institute for Native American Students, summers of 2005 and 2006**

**Duties:** co-teaching the economics portion of a mathematics/mathematical biology summer camp for high school students; tutoring and providing other academic aid.

- **Sonia Kovalevski High School Mathematics Day, 2006 and 2007**

**Duties:** co-organizing the workshops; running workshops in logic and graph theory for local female high school students.

- **High School Visitation Project, December 2006**

**Duties:** preparing and running a graph theory workshop for local high school students.

- **Supplemental Instruction (SI) supervisor, 1999-2004**

**Duties:** interviewing, training, observing and coordinating undergraduate SI leaders.

- **Teaching Fellow, Eberly Center for Teaching Excellence, 2000-2004**

**Duties:** observing and giving feedback to graduate student instructors; helping run workshops and orientations.

## Service

- Mentoring young women through the AWM mentoring network (2005-2007)

- Volunteering for Drexel University's Ask Dr. Math website (2006-2007)

- Organized the CEMELA research symposium in January 2007

Duties included planning symposium schedule and organizing events.

- Served on the University of Arizona Mathematics Department entry-level committee (2006-2007)

- Served on the University of Arizona Mathematics Department teaching post-doc search committee (2006-2007)

- Served on the Mellon College of Science Council (2003-2004)

## Funded projects

- **Sonia Kovalevski High School Mathematics Day**

Acted as a co-PI for the grant, which was funded by the Association of Women in Mathematics (AWM) and the National Security Agency (NSA)

- **Awards/Honors**

- Carnegie Mellon Department of Mathematical Sciences 2003 summer fellowship
- Mellon College of Science 2003 Hugh D. Young graduate student teaching award (presented annually to a graduate student in the Mellon College of Science)
- Best graduating student in 1997, College of Mathematics, University of Belgrade

## Conference presentations

- “Changing pre-service teachers’ perceptions of mathematics education with Latinos/as through after-school experiences.” Paper presented as part of a symposium entitled “The After-school: Shifting paradigms for Latinos/as learning mathematics,” American Educational Research Association (AERA) annual meeting, Chicago, April 2007
- “Teaching mathematics for social justice with elementary Latino/a students in an after-school setting.” Paper presented as part of a symposium entitled “Teaching Mathematics for Social Justice,” AERA annual meeting, Chicago, April 2007
- “Teaching mathematics for social justice with elementary school students,” NCTM annual meeting research pre-session, Atlanta, March 2007
- “Designing an After-School Math Club for Bilingual Students,” NCTM annual meeting, St. Louis, April 2006
- “Experiences and reflections of two mathematicians involved in a mathematics education grant,” MAA sectional meeting, Tucson, April 2006
- “Defining products of  $L_p$  functions in subsystems of second-order arithmetic,” ASL annual meeting, Atlanta, January 2005 (invited talk)

## Publications

### Mathematical logic

- Jeremy Avigad and Ksenija Simic. Fundamental notions of analysis in subsystems of second-order arithmetic. *Annals of Pure and Applied Logic*, 139:138-184, 2006.
- Ksenija Simic. The pointwise ergodic theorem in subsystems of second-order arithmetic. *Journal of Symbolic Logic*, 72:46-66, 2007.
- Ksenija Simic. Properties of  $L_p$  spaces in subsystems of second-order arithmetic. (submitted to the *Archive for Mathematical Logic*)

## Mathematics education

- Díez-Palomar, J., Simic, K., & Varley, M. (2006). From school to a unique learning environment: the evolution of an after school math club. (working draft)
- Díez-Palomar, J., Simic, K., & Varley, M. (2006) Children and adults talking and doing mathematics: A study of an after-school math club. In S. Alatorre, J.L. Cortina, M. Sáiz, & A. Méndez (Eds.), *Proceedings of the Twenty Eighth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. 2, 450-456). Mérida, Mexico: Universidad Pedagógica Nacional.
- Díez-Palomar, J., Simic, K., & Varley, M. (2007) “Math is everywhere”: Connecting mathematics to students lives. [electronic version] *Journal of Mathematics and Culture, Volume 1* (2).
- Díez-Palomar, J., Simic, K., & Varley, M. (2007) El club de matemáticas. Una experiencia cultural de matemáticas de la vida cotidiana, para la diversidad. *UNO: Revista de didáctica de las matemáticas*, 45, 99-106.
- Simic, K., Díez-Palomar, J., & Varley, M. (2007) Undergraduate voices from an after-school field experience: Fostering critical and innovative approaches in mathematics education. (working draft)
- Varley, M., Turner, E., Díez-Palomar, J., & Simic, K.(2007) “Everything is math in the whole world”: Teaching mathematics for social justice with elementary Latino/a students in an after-school setting. (submitted to *Mathematical Thinking and Learning*)

All papers are available at <http://math.arizona.edu/~ksimic>.

## Memberships

- American Mathematical Society (AMS)
- Association for Symbolic Logic (ASL)
- Association of Women in Mathematics (AWM)
- National Council of Teachers of Mathematics (NCTM)
- TODOS: Mathematics for ALL (TODOS)