

Kalina Mincheva

Curriculum Vitae

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Education

- May 2016 **Ph.D. in Mathematics**, *Johns Hopkins University*, Baltimore, MD, USA.
(Expected) Thesis title: Tropical geometry and idempotent semirings.
Thesis Advisor: Caterina Consani
- June 2010 **M.Sc. in Mathematics**, *Central European University*, Budapest, Hungary.
Thesis title: Automorphisms of non-abelian p -groups.
Thesis Advisor: Pál Hegedűs
- May 2008 **B.A. Summa Cum Laude**, *American University in Bulgaria*, Blagoevgrad, Bulgaria.
Computer Science (major), Mathematics (major)
Senior project title: Gröbner Basis Cryptosystems

Research interests

My research is in algebraic geometry, in particular tropical geometry and semiring algebra. I am interested in studying the geometry of tropical schemes and varieties in terms of the congruences on the polynomial and Laurent polynomial semiring with coefficients in the tropical semifield or other idempotent semifields.

Publications

- 2015 Joó, D. and Mincheva, K. On the dimensions of polynomial semirings, eprint arXiv:1510.02493
- 2014 Joó, D. and Mincheva, K. Prime congruences of idempotent semirings and a Nullstellensatz for tropical polynomials, eprint arXiv:1408.3817
- 2010 K. Mincheva, Automorphisms of non-Abelian p -groups, eprint, CEU Electronic Theses and Dissertations Collection.

Invited Talks and Posters

- March 2016 AMS Sectional Meetings, AMS Special Session on Interactions Between Algebraic and Tropical Geometry - talk
- January 2016 Joint Math Meetings, AMS Session on Algebraic Geometry - talk
- Nov 2015 George Mason University - Combinatorics, Algebra and Geometry Seminar - talk
- October 2015 University of Pennsylvania - Algebra seminar - talk
- October 2015 Binghamton University, SUNY - Algebra seminar - talk
- May 2015 Aspects of Algebraic Geometry - Program for Women and Mathematics, IAS - talk
- April 2015 Student Tropical Algebraic Geometry Symposium 2015 - talk
- March 2015 Number Theory Seminar at Johns Hopkins University - talk
- Nov 2014 AGNES - poster

Programs Attended

- May 2015 Aspects of Algebraic Geometry - Program for Women and Mathematics, IAS
- June 2012 MSRI Summer School in Non-commutative algebraic geometry

Teaching

Instructor

- Fall 2014 Introduction to Calculus
- Summer 2013 On-line Linear Algebra - co-instructor

Graduate Teaching Assistant

- Fall 2015 Calculus I - Head TA
- Spring 2015 Abstract Algebra I
- Spring 2015 Linear Algebra
- Spring 2014 Calculus III - Head TA
- Fall 2013 Linear Algebra
- Spring 2013 Linear Algebra
- Spring 2013 Honors Linear Algebra
- Fall 2012 Linear Algebra
- Spring 2012 Calculus II
- Fall 2011 Calculus I
- Fall 2010 Calculus II

Exam preparation

- Fall 2015 Preparing problem sets for the PILOT learning - a peer-led-team learning program
- Spring 2012 Created and graded the JHU Future scholars exam

Undergraduate Teaching Assistant

- 2005 - 2006 Introductory Mathematics, Linear Algebra, Calculus 1

Undergraduate Tutor

- 2006 Mathematics tutor at the math center

Undergraduate Grader

- 2006 - 2008 Differential Equations, Introductory Mathematics, Calculus 2, Calculus 3, Linear Algebra

Teacher Training

Johns Hopkins Teaching Academy - One year program (3 phases) designed to provide an overview and foundation for the teaching and give the opportunity for a hands-on introduction to college level teaching before graduation.

Awards

- 2010 Pro-Rector Award for highest GPA in the department
- 2010 Outstanding Academic Achievement Award

- 2008 Award for special achievements in Computer Science
- 2008 Award for special achievements in Mathematics
- 2007 10th AUBG Programming competition – 3rd place
- 2007 American Foundation for Bulgaria essay scholarship
- 2005-2008 President's list for high GPA
- 2004-2008 Dean's list for high GPA

Extracurricular activities

- Fall 2013 Organizing the JHU Math TA lunches - a place where math TAs can share and discuss their experience in the classroom

Memberships

- AMS American Mathematical Society
- AWM Association for Women in Mathematics
- ACM Association for Computing and Machinery (SIGSAM)
- CIRTL The Center for the Integration of Research, Teaching, and Learning

Non-academic work experience

- June 2008 – August 2008 Junior Software Engineer, PostPath (Cisco)

Skills

C/C++, HTML, CSS, Mathematica, GAP

Languages

- Bulgarian Native
- English Fluent
- French Advanced
- German Beginner

Hobbies

Web Design, Argentine tango, Yoga