Jana Sotáková

*25.4.1993 in Brno, Czech Republic
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EDUCATION

PhD: **QuSoft, ILLC at the University of Amsterdam**
starting date September 2019, topic: quantum cryptanalysis, advisors: Christian Schaffner and Serge Fehr

Department of Mathematics, UC Berkeley
graduate student in the PhD program August 2017 - May 2019
supported in part by the Fulbright Student scholarship (academic year 2017/2018)

Master: **ALGANT Master Programme in Algebra, Geometry and Number theory**
joint degree at University of Regensburg and Leiden University
Graduated July 2017 (cum laude + Sehr gut)
Thesis: „Eta quotients and class invariants of imaginary quadratic fields“ (link)

Bachelor: **Bachelor of mathematics, Masaryk University**
The Department of Mathematics and Statistics, Faculty of Science
graduated August 2015 with honours
bachelor thesis: „The Number Field Sieve Method“ (link)

Erasmus+ mobility: **Faculty of Science, Leiden University** Spring 2015

INTERESTS

I am interested in modular forms and their applications in number theory. For my master's thesis, I studied complex multiplication theory (finding class invariants for imaginary quadratic fields), now I am studying modular forms, quaternion algebras and their connection with supersingular elliptic curves.

HONOURS AND SCHOLARSHIPS

Fulbright student scholarship August 2017 - May 2018 Scholarship covering the cost of living and academic costs of my first academic year at Berkeley.

ALGANT master scholarship September 2015 - August 2017
Monthly scholarship by Universität Regensburg and Universiteit Leiden to cover living costs, travel grant and tuition fee waiver.

Prize of the Head of the Department June 2015
Prize of the Head of the Department of Mathematics and Statistics, Faculty of Science, Masaryk University, for „exceptional studying and creative results, bachelor thesis and representation of the department at international institutions“.

Special prize at student conference April 2012
Open student conference of the Open Science II project, Prague, talk: „Quadratic forms“ in the Mathematics and Informatics section.

Scholarship for talented students 2010-2015
Scholarship to help cover expenses for studying and extra-curricular activities of talented students by the South Moravian Center of International mobility (JCMM).

TALKS

- Isogeny graphs and quaternion algebras at the QuSoft seminar in Amsterdam, January 2019
- Hecke algebras at the Berkeley Number theory seminar (topic: Modularity lifting), Spring 2018
- Classical Iwasawa theory, Selmer groups in Iwasawa theory, talks at the

Iwasawa theory learning seminar I organized at Berkeley as a preparation for the AWS 2018, Spring 2018
- Elliptic curves and modular forms at the Berkeley Number theory seminar (topic: Introduction to the Langlands Program), September 2017
- Symbolic powers and the Eisenbud-Mazur conjecture at the student Commutative algebra and algebraic geometry seminar at Berkeley, September 2017
- Eta quotients and class invariants of imaginary quadratic fields at graduation talks in Leiden, June and July 2017
- Tate-Shafarevic group at workshop on ranks of elliptic curves, HLF 2016
- Elliptic curves and complex multiplication, Prague, April 2016
As a part of my curriculum:
- Weil pairing, Elliptic curves and the Weil conjectures, Regensburg, June 2016,
- Cup product and Tate's thm, Local class field theory, Regensburg, June 2016,
- Coxeter groups in the seminar on Coxeter groups, Regensburg, April 2016,
- Serre duality, two talks, seminar on Riemann surfaces, Regensburg, January 2016,
- Homotopy invariance of simplicial homology, seminar on Simplicial topology, Regensburg, November 2015,
- The number field sieve, two talks in the Bachelor seminar in Leiden, Spring 2015

SCHOOLS, WORKSHOPS, CONFERENCES

- ***Open questions in NT and cryptography***, *Irvine* September 2018
- ***Explicit and computational approaches to Galois representations***, *Luxembourg* July 2018
- ***Arizona Winter School 2018***, *Tucson* March 2018
  Iwasawa theory.
- ***Modular forms are everywhere***, *Bonn* May 2017
- ***Heidelberg Laureate forum 2016***, *Heidelberg* September 2016
- ***Building Bridges***, *Sarajevo* July 2016
  Automorphic forms, Dirichlet series, Galois representations.
- ***Real world crypto and privacy***, *Šibenik, Croatia* June 2016
  Summer school on cryptography.
- ***UNCG Summer School 2016***, *Greensboro, NC* June 2016
  Summer school in computational number theory. Topic: finite fields.
- ***Arizona Winter school 2016***, *Tucson* March 2016
  Analytic Methods in Arithmetic Geometry. Study group for Alina Cojocaru.
- ***Ada Lovelace Symposium***, *Oxford* December 2015
  Celebrating the 200th anniversary of the birth of Ada Lovelace.
- ***Young Women in Algebraic Geometry***, *Bonn* October 2015
  - Conference, minicourse by Anette Huber on "Periods and motives".
- ***19th workshop on ECC***, *Bordeaux* September 2015
  - Summer school and conference.
- ***25th Annual PCMI Summer Session*** 2015, *Park City* July 2015
  IAS/Park City Mathematics Institute, undergraduate summer school.
- ***Aspects of algebraic geometry***, *IAS/Princeton* May 2015
  2015 Program for Women and Mathematics.
- ***MOMISSS***, *Lyon* August 2014
  Modern Mathematics International Summer School for Students.

TEACHING

Math 16B discussion sections Spring 2019
Second semester of introduction to calculus. Lecturer: Kelli Talaska.

Math 16A discussion sections Fall 2018
Introduction to calculus for non-math majors. Lecturer: Kelli Talaska.

Math 1A discussion sections Spring 2018
Introduction to calculus for non-math majors. Lecturer: Richard Bamler.

PROJECTS

Student project at Masaryk University April 2014 – December 2014
Co-author of a set of solved exercises to support the teaching of the course „Rings and Modules". Realized under the project FRMU 0184/2014 of Masaryk University.

High school project competition Spring 2012
Participation in „High school specialized activites" (in scientific or technical fields, writing a thesis on a selected topic and defending it at several levels of the competition against scientific committees). Title: *Proof of the Fermat's last theorem for exponent 3*, supervisors: prof. RNDr. Radan Kučera, Dsc., Mgr. Petr Pupík.

Open Science II project April 2010 – January 2012
Participation in the project of the Czech Academy of Science. Topic: *Studying appropriately chosen books on number theory and solving problems relating to the topics of interests*, supervisor: prof. RNDr. Radan Kučera, Dsc., form: consultations of at least 12 hours / month, outcome: Written work on quadratic forms and their relation to splitting of prime numbers in quadratic fields.

COMMUNITY SERVICE

Noetherian Ring Fall 2018-
Organizer in the group consisting of women in mathematics at UC Berkeley.

Mathematics Graduate Students Association Spring 2018-
Officer in the student organization representing the graduate student community in departmental affairs.

Directed reading program Fall 2017
Weekly meeting with an undergraduate student at Berkeley and studying topics relating to number theory and cryptography.

Correspondence seminar Brkos September 2013-June 2015
Organizer of a mathematical problem solving correspondence seminar Brkos for high school students: selecting problems and grading solutions, organizing team internet competition *Mathrace*, organizing math camps for high school students.

Mentor for girls in science 2015-2017
Mentor for the Czech NKC – Women and Science project for secondary school female students with an interest in technical and natural sciences.

LANGUAGES

English – C2, TOEFL 113, GRE Verbal 168
Dutch - communicative
Latin - maturita exam (Czech high school graduation exam)

EXTRA-CURRICULAR ACTIVITIES

I was a professional athlete (until 2014) competing in 100m hurdles and combined events. I competed at the Inaugural Youth Olympic Games 2010 in Singapore, World Junior Championships in Barcelona 2012, European Under 23 Championships 2013 in Tampere. My personal best is 13.49 and 8.44 for 60m hurdles indoors. I won several Czech junior and youth championship titles, including indoor pentathlon. I am currently in training again, with goal of 5000 points in heptathlon.

I enjoy reading Václav Havel's essays.