

PERSONAL DATA

Born November 16, 1997
Nationality Slovak

EDUCATION

Technische Universität Dresden PhD in Mathematics (subject area <i>Algebra and Discrete Structures</i>) – supervisor Manuel Bodirsky	Dresden, Germany 2021–Current
Charles University Master in Pure Mathematics (program <i>Mathematical Structures</i>) – summa cum laude – thesis: Higher commutators in loop theory (supervisor David Stanovský)	Prague, Czech Republic 2019–2021
Charles University Bachelor in Mathematics (program <i>General Mathematics</i>) – summa cum laude – thesis: Enumeration of affine quasigroups (supervisor David Stanovský)	Prague, Czech Republic 2016–2019

PUBLICATIONS

- [1] **Ž. Semanišínová**, *Paramedial quasigroups of prime and prime square order*, to appear in *Journal of Algebra and Its Applications*, available at <https://doi.org/10.1142/S0219498822502346>.
- [2] **Ž. Semanišínová** and D. Stanovský, *Three concepts of nilpotence in loops*, submitted, available at <https://arxiv.org/abs/2207.13490>.

CONFERENCE AND SEMINAR TALKS

1. *Constraint Satisfaction Problems of First-Order Expansions of Algebraic Products*, AAA102, Szeged, Hungary, June 2022
2. *Constraint Satisfaction Problems of First-Order Expansions of Algebraic Products*, Spring school of the Department of Algebra, Lomnice nad Popelkou, Czech Republic, May 2022
3. *Paramedial quasigroups of prime and prime square order*, Fall school of the Department of Algebra, Telecí, Czech Republic, November 2021
4. *Supernilpotent loops*, International Seminar of the Institute of Algebra, Dresden, Germany, October 2021
5. *Paramedial quasigroups of prime and prime square order*, LOOPS 2019, Budapest, Hungary, July 2019
6. 20+ talks on various topics from high school, university and recreational mathematics
e.g. error correcting codes, zero-knowledge proofs, finite projective planes
7. 10+ tutorials on various topics from high school, university and recreational mathematics
e.g. inclusion-exclusion principle, the method of least squares, pigeonhole principle

TEACHING

- **exercise sessions** at Charles University Summer 2020, 2021
Number Theory (NMMB206)
 - I taught exercise sessions for the course Number Theory (introductory course building on the abstract algebra course taught at the university) with about 30 enrolled students. I was meeting weekly with students via Zoom, preparing sets of exercises and solutions to them and I created a few additional online materials.

SCHOLARSHIPS AND AWARDS

- 2nd place in SVOČ (university students research competition) 2021
- Dean's Teaching Award 2020
- Student Faculty Grant January–May 2020
- merit scholarship 2017, 2018, 2019, 2020
- honourable mention from the International Mathematical Modeling Challenge 2015, 2016
- participation at the national round of the Mathematical Olympiad 2015, 2016

EXPERIENCE

Charles University Prague, Czech Republic
investigator 2020–2021

- Formalization of Combinatorics on Words (GAČR grant)
- The aim of the project is to formalize basics of the known theory of combinatorics on words in the proof assistant Isabelle. My work mostly consisted of writing and revising lemmas, theorems and proofs in order to make them compact and useful for the rest of the theory.

Pavol Jozef Šafárik University Košice, Slovakia
organizer of educational activities for talented students 2017–2021

- IT Academy – education for the 21st century (national project from ESIF)
- The aim of the project is innovation of education of elementary and high school students in the field of computer science, information technologies, mathematics and another STEM subjects. My responsibility was organization of mathematical competitions and camps, which improve mathematical skills and knowledge and stimulate students' interest in mathematics.

EXTRACURRICULAR ACTIVITIES

- Volunteer in the Association STROM 2012–Current
 - I actively organize mathematical competitions such as correspondence seminars or team competitions and mathematical camps for students of elementary and high schools. In 2020-2022, I was the coordinator of the seminar STROM for high school students.
- Regional coordinator in the Slovak Debate Association 2014–2015
 - I was one of the main organizers of regional tournaments in debating for elementary school students, responsible for organizational and professional aspects of the tournaments.

SKILLS

- **Programming languages:** Pascal, C# (basics)
- **Automated theorem proving:** Isabelle/HOL

LANGUAGES

- **English:** fluent
- **German:** elementary
- **Spanish:** elementary
- **Czech:** fluent
- **Slovak:** native