# Anatoli Shatsila

Email: anatoli.shatsila@doctoral.uj.edu.pl
Mobile:   +48-730-380-766

I am interested in complex abelian varieties, Jacobians, Prym varieties, tensors and their invariants.

## EDUCATION

- **Jagiellonian University, Faculty of Mathematics and Informatics** — Krakow, Poland
  *PhD in Mathematics* — *October 2023 -*
- **Jagiellonian University, Faculty of Mathematics and Informatics** — Krakow, Poland
  *Master of Mathematics (Pure Mathematics); GPA: 4.96/5.0 (distinction)* — *October 2021 - July 2023*
- **Jagiellonian University, Faculty of Mathematics and Informatics** — Krakow, Poland
  *Bachelor of Mathematics (Pure Mathematics); GPA: 4.95/5.0* — *October 2018 - July 2021*

## PUBLICATIONS AND PREPRINTS

- V. Borovik, C. Flavi, P. Pielasa, A. Shatsila, J. Song *On the construction of a counterexample to Strassen's rank additivity conjecture*, preprint (2025).
- P. Borówka and A. Shatsila, *Pryms of $\mathbb{Z}/3\mathbb{Z} \times \mathbb{Z}/3\mathbb{Z}$ coverings of genus 2 curves*, preprint (2025).
- P. Pielasa, M. Šafránek, A. Shatsila, *Exact values of generic subrank*, Advances in Mathematics (2025), vol. 469.
- P. Borówka and A. Shatsila, *Hyperelliptic genus 3 curves with involutions and a Prym map*, Mathematische Nachrichten (2024), published online.
- A. Shatsila, *Geometry of elliptic normal curves of degree 6*, Communications in Algebra (2023), 1-15.
- W. Guifeng, T. Disheng, A. Shatsila and X. Zhang, *MICA: Multi-channel Representation Refinement Contrastive Learning for Graph Fraud Detection*, APWeb-WAIM 2023.

## GRANTS AND RESEARCH ACTIVITIES

- Principal investigator in Polish National Science Center project Preludium K/NCN/000481 *"Low degree coverings of genus two curves"* (in Polish: Nakrycia niskiego stopnia krzywych genusu 2). 02.2025-present
- Research student in Polish National Science Center project 2019/35/D/ST1/02385 *"Klein coverings of complex curves"* (in Polish: nakrycia Kleina krzywych zespolonych). Principal investigator: Paweł Borówka
  10.2021-07.2023
- Reviewer on Zentralblatt MATH

## SCHOLARSHIPS

- Franciszek Leja scholarship – awarded to the best Master student(s) at Jagiellonian university (2023)
- Minister's of Education and Sciences scholarship – the scholarship was awarded to 3 mathematics students at the university (2023)
- Excellence Initiative programme – awarded to 5 best students in the cohort (2021/22 and 22/23)
- Rector's Scholarship – awarded to best 10% students in the cohort (2021/22 and 22/23)
- "Szkoła orłów" Scholarship – Ministry of Science and Higher Education programme awarded to 20 students at Jagiellonian University (2019)
- Franciszek Mertens Scholarship – A full 5-year scholarship for international students; awarded to 4 students (2nd edition, 2018)

## HONORS AND AWARDS

- International Mathematics Competition for University Students, 2019 – Second Prize; 2020, 2021, 2022 – First Prize
- Student Thesis in Mathematics Contest named after Józef Marcinkiewicz, January 2022 - Third Diploma
- Mirror of William Lowell Putnam Mathematical Competition, 2018 – Second Prize, 2019 – Third prize
- International Tournament of Young Mathematicians: 2017 – First Prize, 2018 – Grand First Prize (Team Belarus)
- Final Stage of Belarusian National School Olympiad in Mathematics, 2015 – First Prize; 2016, 2017, 2018 – Second Prize

## CONFERENCES AND SUMMER SCHOOLS

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| SYMPAAN 2025 - Symposium of the ALGANT Alumni Network | *Bedlewo, Poland* | *23-27.07.2025* |
| GAEL XXXII | *Toulouse, France* | *16-20.06.2025* |
| Poster 'Prym map of $\mathbb{Z}/3\mathbb{Z} \times \mathbb{Z}/3\mathbb{Z}$-covers of genus 2 curves' | | |
| Birational Geometry: from moduli to geography | *Barcelona, Spain* | *05-07.02.2025* |
| Syzygies and Hilbert Schemes | *Kraków, Poland* | *24-28.09.2024* |
| MATH AMSUD workshop on Algebraic Geometry | *Nice, France* | *17-21.06.2024* |
| 5th National Polish Conference "Oblicza Algebry" | *Kraków, Poland* | *01-04.06.2023* |
| Quiver Representations, Quiver Varieties and Combinatorics | *Bologna, Italy* | *22-26.05.2023* |
| Explicit Algebraic Geometry | *Bedlewo, Poland* | *16-20.04.2023* |
| Algebraic Geometry on the occasion of Sandro Verra's 70th birthday | *Rome, Italy* | *14-17.06.2022* |
| Poster 'Geometry of elliptic normal curves of degree 6' | | |

## Talks

- Prym varieties: a bridge between curves and abelian varieties *SYMPAAN 2025* *24.07.2025*
- Exact values of generic subrank *IMPANGA* *06.06.2025*
- The Prym map of non-cyclic 9-coverings of genus 2 curves *AG Seminar at JU* *17.03.2025*
- Hyperelliptic genus 3 curves with involutions and Prym map *Seminari de Geometria Algebraica de Barcelona* *25.10.2024*
- Hyperelliptic genus 3 curves with involutions and Prym map *MATH AMSUD workshop on Algebraic Geometry* *19.06.2024*
- Elliptic normal curves of degree 6 *Oblicza Algebry Conference* *04.06.2023*
- Additional involutions on hyperelliptic genus 3 curves and a Prym map *AG Seminar at JU* *24.04.2023*
- Linear algebraic groups. Parabolic and Borel subgroups *AG Seminar at JU* *09.01.2023*
- Relations between two criteria for supersingularity of an elliptic curve *NT Seminar at JU* *24.11.2022*
- Introduction to Intersection Theory in Algebraic Geometry *AG Seminar at JU* *15.11.2021*
- Geometry of elliptic normal curves of degree 6 *AG Seminar at JU* *25.10.2021*

## Foreign Visits

- University of Barcelona (Spain), 2 weeks, 2024
- University of Konstanz (Germany), 2 weeks, 2023

## Computer skills and Languages

- **Programming**: Python (Pytorch, Tensorflow), Haskell, C++, Git
- **Mathematics software**: LaTeX, Sage, Magma, Macaulay2
- **Languages**: English (proficient), Polish (proficient), Belarusian (native), Russian (native)