Kirill Lenskiy

Master's program in modern mathematics
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Education

- **Moscow Institute of Physics and Technology** *2021-2025*

Bachelor's Degree in Mathematics and Computer Sciences

- **Saint-Petersburg State University** *2025-2027*

Master's Degree in Mathematics

Experience

- **Keldysh Institute of Applied Mathematics of Russian Academy of Sciences** *2024-2025*

Research assistant at A. Aptekarev's department Moscow

– I studied the geometry of paraorthogonal polynomials on the unit circle and its relation to the Poncelet's Closure Theorem.
– I have proven that Blashke products that correspond to ellipses in Poncelet's theorem can can be presented as composition of two such blashke products
– The results were presented at "Probability Techniques in Analysis and Algorithms on Networks" and "Sirius days of analysis" conferences

- **Moscow Institute of Physics and Technology** *2024-2025*

Course assistant Dolgoprudny

– I worked as an assistant for a course in applied statistics.

Research Interests & About Me

- **Self-simmilarity, fractals and geometric group theory** *2025-Present*

I have an everlasting love for fractals

– My primary research interest is the study of self-simmilarity and fractals.
– Papers I find particularly interesting:
  * Dal Verme, Giulia & Weigel, Thomas. (2020). Monoids, their boundaries, fractals and C*-algebras. Topological Algebra and its Applications. 8. 28-45. 10.1515/taa-2020-0003.
  * Dal Verme, Giulia & Weigel, Thomas. (2024). Bass-Serre theory for groupoids. 2107.09576. https://arxiv.org/abs/2107.09576.
  * Laurent Bartholdi & Rostislav I. Grigorchuk & Volodymyr V. Nekrashevych. (2002). From fractal groups to fractal sets. math/0202001. https://arxiv.org/abs/math/0202001.
– I am conducting independent research in this area, however I would love to join a bigger research group

- **Arithmetic topology** *2025-Present*

Not an expert but an eager enthusiast

– I am interested in an opportunity to study the famous mapping from $\operatorname{Spec}\mathbb{Z}$ to $\mathbb{S}^3$-knots. This is not my primary research interest, but I would love to participate in any ongoing project given a chance to do so
– I am familiar with foundations of etale cohomologies and have a general understanding of the construction of this mapping

- **Paraorthogonal polynomials and Blashke products** *2024-2025*

My bachelor's thesis

– I have conducted some research on Blashke products and their connection to Poncelet's Closure Theorem, and achieved a number of interesting result. Namely I have established that Blashke products that correspond to Poncelet's ellipses (and therefore are related to elliptic integrals) can in some cases be viewed as compositions of Blashke products of the same type. I have also constructed a compass and straightedge algorithm for constructing poncelet's ellipses, which provides some interesting relations between elliptic integrals.
– This research was presented at an international conference, and became the main statement of my bachelor's thesis.

- **Other research topics** *2025-Present*

I am open to suggestions

– I am interested in trying myself in new fields of mathematics. I am most accustomed to topology, homological algebra and algebraic geometry, but am willing to participate in most diverse kinds of research, especially if it is at the intersection of different subjects.

- **About me**

My personality & other activities besides math

– I have been doing gymnastics for the past 5 years
– Among my other passions is skydiving, cooking, hiking and trying new sports and experiences

Participation in Conferences

- **Presented** at "Probability Techniques in Analysis and Algorithms on Networks" (https://www.mathnet.ru/eng/conf2656) *2025*
- **Presented** at "Sirius days of analysis" (https://siriusmathcenter.ru/061w) *2025*
- **Attended** annual school "Algebra and Geometry" (http://www.bogomolov-lab.ru/SHKOLA2025/index.html) by HSE *2024,2025*
- **Attended** "Polynomial Computer Algebra" conference (https://pca.conf-pdmi.ru/2025/) *2025*
- **Attended** winter school "Six Topics in Analysis" (https://siriusmathcenter.ru/014s) *2025*
- **Attended** "Polynomial Computer Algebra" conference (https://pca.conf-pdmi.ru/2025/) *2025*