# Ivan Yakovlev

*Curriculum Vitae*

✉ *ivan.yakovlev@u-bordeaux.fr*
⌂ *iyakovlev23.github.io*

## Education

2021–2024 **PhD in Pure Mathematics**, *Université de Bordeaux*.
At Laboratoire Bordelais de Recherche en Informatique (LaBRI).
Combinatorics and Interactions group.
Thesis advisor: Vincent Delecroix. Thesis title: Quadrangulations with monodromy constraints.

2018–2021 **Normalien at École Normale Supérieure de Paris**.
Admitted via the International Selection program. 3 year scholarship.

2019–2021 **Master of Mathematics, Fundamental Mathematics track**, *Sorbonne Université*.

2018–2019 **Bachelor (Licence) in Mathematics**, *Sorbonne Université*.

2015–2019 **Bachelor in Applied Mathematics**, *Taras Shevchenko National University of Kyiv*.

## Research interests

Enumeration of square-tiled surfaces according to their number of cylinders.
In general: moduli spaces of curves/differentials (hyperbolic/flat surfaces), combinatorial maps (ribbon graphs), Hurwitz theory, intersection theory on moduli spaces.

## Publications

**Contribution of $n$-cylinder square-tiled surfaces to Masur–Veech volume of $\mathcal{H}(2g - 2)$**,
Geometric and Functional Analysis (GAFA), 2023.
DOI link: `https://doi.org/10.1007/s00039-023-00652-9`
Arxiv link: `https://arxiv.org/abs/2209.12348`

## Refereed proceedings

**Algorithms for length spectra of combinatorial tori** (extended abstract),
*with V. Delecroix, M. Ebbens, F. Lazarus.*
39th International Symposium on Computational Geometry (SoCG 2023),
Vol. 258 of Leibniz International Proceedings in Informatics (LIPIcs), pages 26:1–26:16, Dagstuhl, Germany, 2023.
DOI link: `https://doi.org/10.4230/LIPIcs.SoCG.2023.26`
Full version of this paper was accepted to the *Journal of Computational Geometry*.
Arxiv link: `https://arxiv.org/abs/2303.08036`

## Talks

Jan 2024 Journées de combinatoire de Bordeaux, *LaBRI, Bordeaux*.

Oct 2023 Geometry and Topology seminar, *Université du Luxembourg*.

May 2023 LAMFA PhD Seminar, *LAMFA, Amiens*.

Mar 2023 ALEA days, *CIRM, Marseille*.

Mar 2023 Journée cartes at Marne-la-Valée, *Université Gustave Eiffel, Marne*.

Jan 2023 Seminar of Combinatorics and Interactions group, *LaBRI, Bordeaux*.

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| Nov 2022 | Algebraic geometry and moduli seminar, *ETH Zurich*. |
| Apr 2022 | Workshop of ANR MoDiff, *LaBRI, Bordeaux*. |
| Jan 2022 | Seminar of Combinatorics and Interactions group, *LaBRI, Bordeaux*. |

## Visits

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| Oct 2023 | Université du Luxembourg (1 week). |
| May 2023 | Institut Fourier, Grenoble (1 week). |
| Nov 2022 | ETH Zurich, (1 week). |
| May 2021 | M2 internship visit, LaBRI, Bordeaux, (1 month). |

## Teaching

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| 2023-2024 | Computer networks (2nd year Bachelor). |
| | Introduction to C programming (1st year Bachelor). |
| 2022-2023 | Algorithms on tree-like data structures (2nd year Bachelor). |
| 2021-2022 | Combinatorics, Probability, Statistics (2nd year Bachelor). |
| | Algorithms on arrays (1st year Bachelor). |

## Organization / outreach

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| 2022-2023 | Co-organization of the Combinatorics and Interactions seminar at LaBRI, Bordeaux. |
| Jun 2022 | Training of Ukrainian team for international maths olympiads, CIRM, Marseille, France. |
| Apr 2019 | Coordinator at European Girls' Mathematical Olympiad, Kyiv, Ukraine. |
| 2015–2018 | Olympiad mathematics teaching for high-school students, Kyiv, Ukraine. |

## Participation in conferences, schools

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| Jan 2024 | Sage Days 125, Le Teich. |
| Oct 2023 | Conference "Probability and Geometry in, on and of non-Euclidean spaces", CIRM, Marseille. |
| Jul 2023 | Research school "Renormalization and Visualization for packings, billiards and surfaces", CIRM, Marseille. |
| Jul 2023 | IMJ-PRG Summer School 2023 "Microlocal and probabilistic methods in geometry and dynamics", Paris. |
| Nov 2022 | Meeting of young researchers in geometry and dynamics, Orsay. |
| Oct 2022 | School on Random Walks, Göttingen. |
| Sep 2022 | Conference "Combinatorics, dynamics and geometry in the moduli spaces", CIRM, Marseille. |
| May 2022 | Conference "Structures on Surfaces", CIRM, Marseille. |
| Mar 2022 | ALEA days, CIRM, Marseille. |
| Jan 2022 | Winter school on billiards, Autrans. |
| Sep 2021 | Summer school on topological recursion "TRSalento", Otranto. |

## Miscellaneous

Languages: English, French, Russian (native), Ukrainian (native).

Programming: C++, Python, SageMath, OCaml.