Vadim LEBOVICI

PhD student in Mathematics at Paris-Sud University

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Education

2020 – 2023   **PhD in mathematics**, *Paris-Sud University / INRIA Saclay*, Datashape team.
Construction of a new invariant for multiparameter persistent modules via Laplace transform of constructible functions, under the supervision of Steve Oudot and François Petit.

2018 – 2019   **Master 2 in Pure mathematics**, *Sorbonne University*.
Courses : Differential geometry / Homological algebra / Algebraic topology / Combinatorics of polytopes / Homotopy theory

2017–2018   **Master 1 in Mathematics**, *ENS Ulm / Paris Diderot University*.
Courses: Differential Geometry / Partial differential equations / Dynamic systems / Functional analysis / Modelisation

2016–2017   **Bachelor's degree in Mathematics**, *ENS Ulm / Paris Diderot University*.
Courses: Integration, Probability / Topology, Differential calculus / Group theory / Complex analysis / Statistical physics / Hydrodynamics

2016–2020   **Ecole Normale Supérieure (ENS Ulm)**, Paris, France.

2014–2016   **2-year intensive program preparing for national competitive exam to French *Grandes écoles***, *Lycée Saint-Louis*, Paris, France.

Publications and preprints

2020   **M. Botnan, V. Lebovici, S. Oudot**, *Local characterization of indecomposable poset representations: the case of rectangle representations in the plane*, preprint Arxiv:2008.02345.

2020   **M. Botnan, V. Lebovici, S. Oudot**, *On rectangle-decomposable persistence bimodules*, Proc. 36th International Symposium on Computational Geometry (SoCG 2020).

2019   **V. Lebovici**, *Reconstruction of piecewise constant functions from x-ray data*, Inverse Problems, 35(9):095003, doi: 10.1088/1361-6420/ab1c85.

Aug 2018   **Inverse problems conference (poster)**, *Jyväskylä University, Finland*.

Teaching

2020 – 2023   **Teaching assistant**, *ENS Ulm*.
Maths course for non-specialists and supervision of a reading group on topological data analysis.

2019 – 2020   **Teaching assitant (1 day/week)**, *Middle school Jean Perrin, Paris 20ème*.

Mar 2019   **"How to arouse students' learning interest?" (TEDx talk)**, *IMT Lille-Douai*, with Lucas Willems.

Oct 2017   **What is a number? (talk for non-specialists)**, *Savoirs Pour Tous*, ENS, Paris.

Since 2017   **Foundation of "Savoirs Pour Tous" (association)**, with Lucas Willems.
Savoirs Pour Tous aims at presenting a great diversity of university subjects to high school students by problem-based talks, published on YouTube (more than 40 talks).

2017–2018   **Oral examiner for "classes préparatoires" students**, *Lycée Saint-Louis*, Paris.

Professional experiences

2019 – 2020   **Mission Villani-Torossian (half-time internship)**, *Ministry of Education, France*, under the supervision of Charles Torossian.

Apr 2019 – Aug 2019   **Decomposition of 2-parameter persistance modules (research internship)**, *INRIA Saclay*, under the supervision of Steve Oudot.

Feb 2018 – Jun 2018   **Geometric inverse problems, x-ray transform (research internship)**, *Jyväskylä University*, Finland, under the supervision of Mikko Salo.

Programming skills

Advanced   Python / GAP