

Curriculum Vitae of Arina Voorhaar (Arkhipova)

CONTACT INFORMATION

Office 04-2-07,
Department of Mathematical Sciences
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EDUCATION

Docteur ès sciences mention mathématiques

(PhD) [Université de Genève](#)

10/2017 – 09/2022. Geneva, Switzerland

Thesis: “*On the Newton polytope
of the Morse discriminant*”

Advisor: Anton Alekseev

Кандидат математических наук (PhD)

[HSE University](#)

11/2017 – 09/2022. Moscow, Russia

Thesis: “*Newton polytopes, sparse resultants
and enumeration of singularities*”

Advisor: Alexander Esterov

MSc. in Mathematics [Université de Genève](#),

2016 – 2017. Geneva, Switzerland

Master Class in Geometry, Topology and Physics

Thesis: “*Topological Invariants of Projections
and Newton Polytopes*”

Advisors: Grigory Mikhalkin and Alexander Esterov

B.Sc. in Mathematics [HSE University](#),

2012 – 2016. Moscow, Russia

graduated with honors

Thesis: “*Signs of The Leading Coefficients
of The Resultant*”

Advisor: Alexander Esterov

High school [School #179 of MIOE](#),

2009 – 2012. Moscow, Russia

*specialized in Mathematics,
graduated summa cum laude*

RESEARCH INTERESTS

- Enumerative and combinatorial algebraic geometry
- Tropical and convex geometry
- Singularity theory
- Toric geometry and Newton polyhedra
- Elimination theory

PERSONAL DETAILS

Date and place of birth: January 25, 1995,
Moscow, Russian Federation

Citizenship: Dutch, Russian

Marital status: Married

POSITIONS HELD

Postdoctoral researcher

[Department of Mathematical Sciences, University of
Copenhagen](#)

10/2022 – present. Copenhagen, Denmark.

Associate Member of the Research Team

[International Laboratory of Cluster Geometry, HSE
University](#)

02/2021 – present. Moscow, Russia.

Research intern

[Laboratory of Algebraic Geometry and its Applica-
tions, HSE University](#)

03/2016 – 07/2016. Moscow, Russia.

RESEARCH PROJECTS

Participant [HSE 16-01-0069](#)

2016 – 2017. Moscow, Russia.

Topic: “*Algebraic-geometric applications of invariants
of lattice polytopes modulo a prime number*”

PUBLICATIONS & PREPRINTS

2017 *Signs of the Leading Coefficients
of the Resultant*

Published in: Journal of Geometric and Functional
Analysis (GAFA)

Joint with: Alexander Esterov

2022 *On the Singular Locus of a Plane Projection
of a Complete Intersection*

Published in: Mathematische Zeitschrift

2021 *The Newton Polytope of the Morse
Discriminant of a Univariate Polynomial*

Preprint. arXiv:2104.05123 [math.AG]

Submitted to: Advances in Mathematics

LANGUAGES

- Russian (Native)
- English (fluent / C2)
- French (fluent / C1)
- Dutch (intermediate / B1)
- Italian (basic / A2)

TEACHING EXPERIENCE

Teaching Assistant Course: “Mathématiques pour Informaticiens”, Instructor: Paul Turner Université de Genève, Geneva, Switzerland	Spring 2022
Teaching Assistant Course: “Mathématiques Générales”, Instructor: Pierre-Alain Cherix Université de Genève, Geneva, Switzerland	Fall 2021
Teaching Assistant Course: “Algèbre I”, Instructor: Bart Vandereycken Université de Genève, Geneva, Switzerland	Fall 2021
Teaching Assistant Course: “Laboratoire de Programmation Mathématique”, Instructor: Nicolas Orantin Université de Genève, Geneva, Switzerland	Spring 2021
Teaching Assistant Course: “Algèbre I”, Instructor: Bart Vandereycken Université de Genève, Geneva, Switzerland	Fall 2020
Teaching Assistant Course: “Travaux Pratiques Algèbre/Analyse” , Instructor: David Cimasoni Université de Genève, Geneva, Switzerland	Spring 2020
Teaching Assistant Course: “Algèbre I”, Instructor: Bart Vandereycken Université de Genève, Geneva, Switzerland	Fall 2019
Teaching Assistant Course: “Travaux Pratiques Algèbre/Analyse”, Instructor: David Cimasoni Université de Genève, Geneva, Switzerland	Fall 2018

Teaching Assistant Course: “Homologie et Cohomologie”, Instructor: Samuel Monnier Université de Genève, Geneva, Switzerland	Spring 2018
Teaching Assistant Course: “Basic Notions of Calculus” , Instructor: Marachev A.A. school #179 MIOE, Moscow, Russia	Fall 2015–Spring 2016
Teaching Assistant Course: “Introduction to Probability Theory” , Instructor: Klimenko A.V. NRU HSE, Moscow, Russia	Fall 2015
Teaching Assistant Course: “Introduction to Discrete Mathematics” Instructor: Feigin E.B. NRU HSE, Moscow, Russia	Spring 2015
Teaching Assistant Course: “Dynamical Systems”, Instructor: Esterov A.I. NRU HSE, Moscow, Russia	Fall 2014
Teaching Assistant Course: “Logic and Algorithms” Instructors: Beklemishev L.D., Shehtman V.B. NRU HSE, Moscow, Russia	Fall 2013

PARTICIPATION IN CONFERENCES & SUMMER SCHOOLS

- Göran Gustafsson-symposium
Stockholm, Sweden
May-Jun 2022
- Tropical Geometry and Singularities
Lille, France
Sep 2021
- SwissMAP General Meeting – 2021
Les Diablerets, Switzerland
Sep 2021
- GQT Graduate School and Colloquium – 2019
Den Dolder, the Netherlands
Jul 2019
- Helvetic Algebraic Geometry Seminar – 2019
Konolfingen, Switzerland
Jun 2019
- Winter School in Mathematical Physics – 2019
Les Diablerets, Switzerland
Jan 2019
- Higher Algebra and Mathematical Physics
Bonn, Germany
Aug 2018
- 2nd Budapest Workshop on Characteristic Classes of Singularities
Budapest, Hungary
Aug 2018
- CIME School “Geometric Representation Theory and Gauge Theory”

Cetraro, Italy	Jun 2018
• Helvetic Algebraic Geometry Seminar – 2018 Konolfingen, Switzerland	Jun 2018
• Winter School in Mathematical Physics – 2018 Les Diablerets, Switzerland	Jan 2018
• Galois Meets Newton: Algebraic and Geometric aspects of Singularity Theory Weizmann Institute of Science, Rehovot, Israel	Jul 2017
• Women in Geometry and Topology ETH Zürich, Switzerland	Jun 2017
• Winter School in Mathematical Physics – 2017 Les Diablerets, Switzerland	Jan 2017
• Summer School on Algebra, Statistics and Combinatorics Aalto University, Helsinki, Finland	Jun-Jul 2016
• Transversal Aspects of Tilings island Oléron, France	May-Jun 2016
• Scuola Matematica Interuniversitaria, Perugia, Italy	Jul–Aug 2015
• Modern Mathematics International Summer School for Students (MoMISSS), Lyon, France	Aug 2014
• Summer school “Contemporary Mathematics”, Dubna, Russia	Jul 2014
• XIII school-conference in Maths and Physics, (HSE-ITEP(Moscow)-ITP(Kiev)), Dubna, Russia	May 2014
• Summer school “Contemporary Mathematics”, Dubna, Russia	Jul 2013