

Curriculum Vitae of Arina Voorhaar (Arkhipova)

CONTACT INFORMATION

Rue du Conseil-Général 7-9
1205, Geneva, Switzerland
arina.arkhipova@unige.ch
arina.voorhaar@gmail.com

EDUCATION

PhD Student [Université de Genève](#)
10/2017 – 2022 (expected). Geneva, Switzerland
Advisors: Anton Alekseev and Alexander Esterov

PhD Student [HSE University](#),
09/2017 – 2022 (expected). Moscow, Russia
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
- Knot invariants
- Tilings

PERSONAL DETAILS

Date and place of birth: January 25, 1995,
Moscow, Russian Federation
Citizenship: Russian
Marital status: Married

POSITIONS HELD

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: “*Algebro-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

2020 *On the Singular Locus of a Plane Projection
of a Complete Intersection*

Preprint. arXiv:1910.06626 [math.AG]
Submitted to: 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)

SELECTED TALKS

- “*The Newton Polytope of the Morse Discriminant*”,
Tropical Geometry and Singularities, Lille, France Sep 2021
- “*The Newton Polytope of the Morse Discriminant*”,
SwissMAP General Meeting, Les Diablerets, Switzerland Sep 2021

TEACHING EXPERIENCE

- Teaching Assistant Fall 2021
Course: “Mathématiques Générales”, Instructor: Pierre-Alain Cherix
Université de Genève, Geneva, Switzerland
- Teaching Assistant Fall 2021
Course: “Algèbre I”, Instructor: Bart Vandereycken
Université de Genève, Geneva, Switzerland
- Teaching Assistant Spring 2021
Course: “Laboratoire de Programmation Mathématique”,
Instructor: Nicolas Orantin
Université de Genève, Geneva, Switzerland
- Teaching Assistant Fall 2020
Course: “Algèbre I”, Instructor: Bart Vandereycken
Université de Genève, Geneva, Switzerland
- Teaching Assistant Spring 2020
Course: “Travaux Pratiques Algèbre/Analyse” ,
Instructor: David Cimasoni
Université de Genève, Geneva, Switzerland
- Teaching Assistant Fall 2019
Course: “Algèbre I”, Instructor: Bart Vandereycken
Université de Genève, Geneva, Switzerland
- Teaching Assistant Fall 2018
Course: “Travaux Pratiques Algèbre/Analyse”,
Instructor: David Cimasoni
Université de Genève, Geneva, Switzerland
- Teaching Assistant Spring 2018
Course: “Homologie et Cohomologie”, Instructor: Samuel Monnier
Université de Genève, Geneva, Switzerland
- Teaching Assistant Fall 2015–Spring 2016
Course: “Basic Notions of Calculus” , Instructor: Marachev A.A.
school #179 MIOE, Moscow, Russia
- Teaching Assistant Fall 2015

Course: “Introduction to Probability Theory” ,
Instructor: Klimenko A.V.
NRU HSE, Moscow, Russia

Teaching Assistant

Spring 2015

Course: “Introduction to Discrete Mathematics”
Instructor: Feigin E.B.
NRU HSE, Moscow, Russia

Teaching Assistant

Fall 2014

Course: “Dynamical Systems”, Instructor: Esterov A.I.
NRU HSE, Moscow, Russia

Teaching Assistant

Fall 2013

Course: “Logic and Algorithms”
Instructors: Beklemishev L.D., Shehtman V.B.
NRU HSE, Moscow, Russia

PARTICIPATION IN CONFERENCES & SUMMER SCHOOLS

- 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

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|---|--------------|
| 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 |