

Yuriy Tumarkin

Curriculum Vitae

Trinity College

CB2 1TQ

Cambridge, UK

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Education

2021–2022 **MMath**, *Part III of the Mathematical Tripos, University of Cambridge.*

Courses taken (by June 2022):

Part III: Differential Geometry, Symplectic Geometry, Mapping Class Groups, Algebraic Topology, Knots, Coxeter Groups, Complex Manifolds, Modular Forms.

Graduate: Topics in Symplectic Topology, 4-manifolds, Dynamics and Diophantine Approximation.

2018–2021 **Mathematics B.A.**, *Trinity College, University of Cambridge,*

Third year: First Class Honours, 78%, rank 32/222.

Second year: Exams cancelled due to Covid-19.

First year: First Class Honours, 91%, rank 9/232.

Courses taken:

Third year: Algebraic Topology, Riemann Surfaces, Differential Geometry, Dynamical Systems, Representation Theory, Algebraic Geometry, Galois Theory, Number Theory, Number Fields, Probability & Measure, Quantum Information & Computation.

Second year: Analysis & Topology, Groups Rings & Modules, Geometry, Complex Analysis, Linear Algebra, Variational Principles, Mathematical Methods, Markov Chains, Statistics, Fluid Dynamics, Electromagnetism, Quantum Mechanics.

First year: Groups, Analysis I, Numbers & Sets, Probability, Vector Calculus, Vectors & Matrices, Differential Equations, Dynamics & Relativity.

2012–2018 **Secondary School**, *Durham Johnston Comprehensive School, Durham, UK,*

A levels: 5 A* (Maths, Further Maths, Physics, History, Russian), 3 A (Chemistry, French, German).

Publications

- [1] (With Misha Schmalian and Yuri B. Suris). *How one can repair non-integrable Kahan discretizations. II. A planar system with invariant curves of degree 6.* To appear in Mathematical Physics, Analysis and Geometry. arXiv: 2106.14301.

Mathematical activities

Aug-Sep 2021 **Mathematical essay “Groups Acting on Trees”**, *Set by Henry Wilton (Cambridge), an exposition of Bass-Serre theory, available [here](#).*

Aug-Oct 2020 **Summer research project supervised by Yuri Suris (TU Berlin)**, *(with Misha Schmalian). We studied the geometry of discrete integrable systems generated by birational maps.*

July 2020 **Reading group**, ‘*The Knot Book*’ by Colin Adams.

Apr 2020 – **External secretary of Cambridge University Mathematical Society**,

Mar 2021 *Responsible for organising weekly talks by invited speakers.*

Oct-Nov 2019 **STIMULUS**, *I taught six year 5 students (10 years old) introductory combinatorics, Cambridge, UK.*

Sep 2019 **Reading group**, ‘*Lectures in Discrete Geometry*’ by Jiří Matoušek.

- July 2019 **Team Guide at IMO, Bath, UK.**
- Dec 2018 **Talk at Durham Johnston School mathematical society**, “*Cutting Sequences and Beatty’s Theorem*”, based on Sergei Tabachnikov’s “*Geometry and Billiards*”.
- 2016–2018 **Organiser of school mathematical society**, *Compiled problem sheets (available [here](#)) and led weekly sessions, Durham Johnston School.*
- Summer schools and camps
- 2017 **Modern Mathematics International Summer School for Students**, *Bremen, Germany*, incl. courses by Don Zagier, Bernd Sturmfels, Anton Zorich.
- 2016 **Contemporary Mathematics Summer School**, *Dubna, Russia*, incl. courses by Yulij Ilyashenko, Stanislav Smirnov, Victor Vassiliev, Alexey Sossinsky.
- 2015–2016 **Summer schools and training camps organised by UKMT (UK Mathematics Trust)**, *Leeds; Oxford; Cambridge.*

Awards and prizes

- 2021 **Trinity College Senior Scholarship.**
- 2019 **Trinity College Junior Scholarship.**
- 2010–2017 **Mathematical olympiads in the UK and Germany**, *Highest prizes 2010, 13–15, 17, full marks 2015, 17.*
- Dec 2012 **Berkeley Math Circle Monthly Contest - 2nd Prize (Junior).**

Skills

- Languages English, Russian (Native), German (approx C1), French (approx C1).
- Programming Sage, Python, LaTeX, Geogebra
and software

Hobbies

I play ultimate frisbee, as well as badminton and table tennis. I also enjoy playing the saxophone, reading and hiking.

References

- Henry Wilton** College supervisor, lecturer, h.wilton@maths.cam.ac.uk.
(Cambridge)
- Yuri B. Suris** Supervisor of summer research project, suris@math.tu-berlin.de.
(TU Berlin)
- Tom Fisher** Director of studies at Trinity, t.a.fisher@dpmms.cam.ac.uk.
(Cambridge)