Segev Gonen Cohen

Phone: +41 76 265 47 14
Address: Blumenfeldstrasse 37, Zürich, 8046, Switzerland
Website: http://sg878.user.srcf.net
Work email: segev.gonencohen@math.ethz.ch
Personal email: segev.gc@gmail.com
LinkedIn: Segev Gonen Cohen

Education

October 2023 - present	PhD in Mathematics, **ETH Zürich** Under the supervision of Dr. M. Akka and Prof. M. Einsiedler
September 2021 - August 2023	Masters in Mathematics, **ETH Zürich** (Grade: 5.91) Module listing available on my website **Master's thesis** under the supervision of **Prof. M. Burger** **Title:** *Algebraic Certificates for Positivity and Kazhdan's Property (T)* **Semester paper** under the supervision of **Dr. M. Akka** **Title:** *Quantitative estimates in Oppenheim's conjecture*
October 2018 - July 2021	Bachelors in Mathematics, **Pembroke College, University of Cambridge** **First class** in first year of the degree Module listing available on my website Options include independent computational research projects in Mathematics (**CATAM**)
2011 - 2018	**JFS School**, Harrow, London A-level Maths, Further Maths, Further Additional Maths, Physics, Chemistry, Biology **(6A*)** STEP II **(S)**, III **(1)** GCSE **(11A* + 1A)** including Maths **(A*)**, English Language **(A*)**, Triple Science **(A*A*A*)**

Publications

Impact Hamiltonian systems and polygonal billiards *(with L. Becker, S. Elliott, B. Firester, M. Pnueli, V. Rom-Kedar)*
[arXiv] To appear in the "Proceedings of the MSRI 2018 Fall semester on Hamiltonian Systems"

Undergraduate Research Experience

July-Oct 2021	**Summer Research In Mathematics Programme** **University of Cambridge** • Worked on *asymptotic functions of groups* under the guidance of a faculty member, starting from a recently published paper; • Found novel upper bounds for LEF growth of interesting families of groups; • Applied techniques developed by my mentor to show that certain families of groups are not finitely presentable.
July-Oct 2020	**Summer Research In Mathematics Programme** **University of Cambridge** • Worked on *stability of equations in permutations* under the guidance of a faculty member, starting from a recently published paper; • Extended results in the case of finite-index equation sets, including a novel approach to finding an upper bound for all finite examples; • Computed the explicit stability rates in some cases and derived upper bounds for some classes of groups; • Gave a talk introducing the topic and my key results.
July-Oct 2019	**Undergraduate Research Opportunities Programme** **Imperial College London** • Worked on the *Plasmonic Eigenvalue Problem* under the guidance of a faculty member, starting from a recently published paper; • Used methods from Slender-body theory to extend the results of previous work to slender metallic nanoparticles with blunt tips;
July 2018	**Dr. Bessie F. Lawrence International Summer Science Institute (ISSI)** **Weizmann Institute of Science, Israel** • Awarded a scholarship to spend 4 weeks performing active research; • Investigated the behaviour of a new dynamical system using computer modelling initially before completely specifying the solutions; • Developed communication and team working skills across different cultures as the team was international; • Composed a paper and gave a presentation on the subject with my teammates;

Awards

December 2022	**VMP Assistenaward**, for my activities as Teaching Assistant in *Linear Algebra I*;
March 2019, 2020	**Full Blue**, the highest sporting honour in Cambridge;
March 2019, 2020	**Ginsberg prize** from Pembroke College;
July 2019	**Peter May Prize** for University Sports and Academics;
July 2019	**College scholarship** for performance in examinations;
December 2018	**Bar Ilan University Prize** for Outstanding Achievement in A Levels;
August 2018	**Jack Petchey Award** - for *'Inspirational attitude'* during *'constructive activities'* e.g. competitive sport;
April 2017	**Outstanding individual** in the *'UCL Be A Polymath Challenge'*, where teams competed in various science-based competitions
December 2015	**Royal Astronomical Society Certificate of Excellence**, for academic achievement.

Other activities

- **Teaching Assistant** for *Linear Algebra I* in Herbstemester 2022. Responsibilities include marking submissions, weekly blackboard teaching, and individual support where required. Mid semester feedback available upon request;
- **President** of the *Masters and Internationals Committee* as part of *VMP* (the Maths and Physics student association) at ETH Zürich, activities involve organising and running events;
- **Counsellor** as part of the *VSETH Helpdesk*, an alternative point of contact for students at ETH Zürich;
- **Competitive swimmer** at a national level during my undergraduate studies, training year round, and a member of the Cambridge University first team;
- **Safety and Covid officer** for *CUSWPC* in my third year of the undergraduate – responsibilities include coordinating return to sport for swimming and water polo through extensive risk assessments, and maintaining a club wide track and trace system;
- **Welfare officer** of the *Cambridge University First swim team* in my second year.