Dr Tsvetomir Mihaylov, MMath

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Education

PhD in Mathematics, University of Birmingham [2019 - 2024]

Supervised by Johannes Carmesin and Deryk Osthus

- *Annulus graphs in* $\mathbb{R}^d$ with Lyuben Lichev
  - Published in Journal of Discrete & Computational Geometry (Arxiv link)
- *Outerspatial 2-complexes: Extending the class of outerplanar graphs to three dimensions* with Johannes Carmesin.
  - Published in Electronic Journal of Combinatorics (Arxiv link)
- Presenting the paper *Outerspatial 2-complexes: Extending the class of outerplanar graphs to three dimensions* at British Early Career Mathematicians' Colloquium, 2021
- Selected courses: **Advanced Combinatorics, Combinatorial limits, Category Theory**

MMath Mathematics, St Hilda's College, University of Oxford [2015 - 2019]

- Graduated with distinction all four years
- Selected courses: **Probability**, Statistics and **Data Analysis**, Computational mathematics (Taught MATLAB and **Python**), Graph Theory and Networks

Sofia High School of Mathematics [2010 - 2015]

- Graduated with distinction, top 1% (GPA: 5.95/6.00)
- Team member of the National mathematical team
- Team member of the chess club

Work Experience

Teaching assistant at University of Birmingham [2019 - 2023]

- Teaching Mathematics, Statistics and Computer Science to students from the University of Birmingham.
- International experience teaching Mathematics, Statistics and Computer Science at Jinan University, China.

Quantitative researcher at WorldQuant [Jun – Sep 2019]

- Performing data cleaning to NYSE datasets
- Performing data analysis to datasets with more than 3000 points daily
- Analysing and interpreting financial statements such as balance sheets, cash flow statements and P&Ls
- Developing sophisticated predictive models with time series and panel data and implementing them in **C++**

Summer project with Dr Katherine Staden at the University of Oxford. [Jun – Sep 2018]

- The project was in Combinatorics and was titled 'Chromatic Ramsey numbers'.
- Showed a bound on the chromatic Ramsey number of certain graphs using partial chromatic number.

Summer project with Dr Robert Van Gorder at the University of Oxford. [Jun – Sep 2017]

- The project was in Number Theory and was titled 'Ramanujan differential equations'.
- Solved an infinite system of differential equations posed by Ramanujan.

Committee member in Oxford University Bulgarian Society [2016 - 2017]

- Leading team communication and aligning strategies with other committee members.
- Marketing and advertisement led to a substantial increase in community members.
- Organising social and networking events, overseeing their attendance and finances.

Professional skills

IT skills: LaTeX, **Python** - expert; C++, SAGE - advanced; MATLAB, Git, Unix - intermediate.
Languages: English – fluent; Bulgarian – native; German - advanced.

Awards and scholarships

- An EPSRC DTP award and a scholarship from the School of Mathematics at the University of Birmingham jointly fund my PhD. [2019 - 2023]
- Project grant from Oxford University for a mathematical research project in Combinatorics [2018]
- Project grant from Oxford University for a mathematical research project on optimisation models and differential equations [2017]
- National merit-based scholarship for ranking among top 3 Bulgarian mathematicians [2011 - 2015]
- Merit-based scholarship from Sofia High School of Mathematics [2010 - 2015]
- Laureate at many regional and national mathematical competitions [2010 - 2015]
- Laureate at the Balkan Mathematical Olympiad in Pleven, Bulgaria [2014]
- Bronze medal at the Russian Mathematical Olympiad in Moscow, The Russian Federation [2014]
- Laureate at the Mathematical Duel competition in Přerov, The Czech Republic [2013]

Extracurricular activities

- DataCamp certificates for **Data scientist with Python** & **Data analyst with Python** [2022 - 2024]
- Jury in International mathematical competitions in Sozopol, Bulgaria [2016 - 2017]
- Supervisor of extracurricular mathematical projects in high school [2010 - 2015]

Hobbies

Gymnastics — Martial Arts — Science Fiction — Dancing — Ski