WILLIAM FORD

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Born: 22nd May 2002, Penrith, Northern England
Residency: Paris, France
Languages: English (Native), French (B2), German (A2)

PROFILE

M2 Optimisation student at Polytechnique with research interests in optimal transport and its (many) applications. Currently supported by a Sophie Germain scholarship from the Fondation Mathématique Jacques Hadamard. Before this I completed a BSc and MSc at Durham University (UK), where I received the Winton and Norton Prizes for the highest ranked MSc mathematics student and performance in my first year respectively.

EDUCATION

IP Paris PhD track/Paris-Saclay M2 Optimisation: TBD/20 *2024 – 2025*

M2 program focusing on theoretical aspects of optimisation (stochastic optimisation, convex and nonsmooth analysis and optimisation), their connection with PDEs (Calculus of variations, Elliptic PDEs, optimal transport, optimal control) and their connections/applications within game theory (classical game theory, mean field games).

Durham University MSc Mathematics: First Class – 88/100 (ranked 1st out of 25) *2023 – 2024*

1 year master specialising in analysis and probability (functional analysis, PDEs, stochastic analysis, ergodic theory, percolation theory). Received first class marks in all modules, and the Winton prize for highest ranked student.

Thesis *"partial regularity for optimal transport maps between uniform measures"* (86/100) on using the Benamou-Brenier formulation of optimal transport to develop a variational approach to regularity theory for OT maps. Supervisor: *Dr Alpár Mészáros.*

Durham University BSc Mathematics: First Class – 82/100 (ranked 7th out of 129) *2020 – 2023*

3 year BSc covering a range of topics in fundamental and applied mathematics. Received first class marks in all modules taken and received the Norton Prize in 2021 for outstanding performance.

Thesis *"Normal families in complex analysis"* (79/100) on compactness criteria in various functional spaces, and their applications in proving results in complex analysis (Great Picard theorem) and holomorphic dynamics. Supervisor: *Dr Wilhelm Klingenberg.*

Queen Elizabeth Grammar School Penrith *2013 – 2020*
A levels: Maths (A*), Further Maths (A*), Physics (A*)
GCSEs: 12 GCSEs including Further Maths (A**), Maths & Physics (9)

AWARDS AND SCHOLARSHIPS

2024 €11 000 Sophie Germain M2 Excellence Scholarship, Fondation Mathématique Jacques Hadamard.
2024 £500 Winton MSc Memorial Prize for highest scoring student in Mathematics, Durham University.
2021 £50 Norton Prize for performance in science, St Cuthbert's Society, Durham University.

TEACHING EXPERIENCE

Undergraduate Tutor and Teaching Assistant | Durham University *2023 – 2024*
Lead weekly undergraduate tutorials (small group problem solving classes) for two classes of 13 Calculus I students, as well as marking biweekly assignments for 7 Linear Algebra/Calculus tutorial groups.

Mathematics Tutor | MyTutor.co.uk *2021 – 2023*
Tutored struggling GCSE and A-level maths students in both 3 to 1 and 1 to 1 settings, helping develop students problem solving skills and confidence approaching unseen material.

SKILLS

Python, Mathematica

REFERENCES

Available on request