

# Tom Szwarczer

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tomszwarczer.github.io

## Education

### Oriel College, University of Oxford (Physics)

#### 2021-present

- Scholarship awarded - prize for 2nd year exam performance, overall score of 73
- 5 prizes awarded for performance in internal college exams
- Scored 98 in 2nd year practical component

### Kenilworth School and Sixth Form

#### 2014-2021

- A\*A\*A\* (Maths, Further Maths, Physics) A-Level
- 99999999A^A\*777 GCSE (A^ = A\* with distinction)

## Projects

Detailed information, including reports, presentations and further projects can be found at [tomszwarczer.github.io](https://tomszwarczer.github.io)

### Dark Matter Summer Placement

#### 2024

- Eight-week internship with the particle physics department at STFC
- Simulation of electron interactions leading to scintillation light production in gas detectors
- Developed skills in C++, data analysis, parallel computing, bash and using tools for simulating electron interactions in the presence of gas and E-fields
- Regularly presented my progress to the collaboration and assembled a project report

### Third year mini project

#### 2024

- Extended astrophysics practical project, processing observational images including data reduction. By fitting isochrones to the processed data, the age, distance, and extinction parameters for stellar clusters were obtained
- Results presented in a scientific report
- Received a score of 85

### Comprehensive QM and linear algebra summaries

#### 2022, 2023

- Compiled extensive LaTeX formatted notes on quantum mechanics and linear algebra, distributed to 1st and 2nd year students
- Developed communication skills and deepened my own understanding in these areas

## Technical Skills

- Python (including for data analysis), C++, MATLAB
- Bash and using Linux
- Simulation tools: Gmsh, Elmer, Garfield++, Magboltz, ROOT
- Parallel computing (HTCondor) and version control (Git)

## Employment

- Private tutoring (GCSE maths), service staff (Unitemps, Warwick Castle, Wroxall Abbey Hotel)