Matthew Doyle

Flat L, 110 Clyde Road, Manchester, M20 2JN
matthew.doyle@manchester.ac.uk
07903365980

Education

University of Manchester

PhD (Condensed Matter Physics) Expected 2024 – Viva date TBC

Thesis title: "Numerical Simulation and Experimental Visualisation of Quantum Turbulence in the Zero Temperature Limit".

Key responsibilities and achievements:

- Running laboratory experiments, conducting risk assessments, organising data storage and managing lab inventory.
- Operation of lasers, general cryogenic apparatus, vacuum technology and a rotating cryostat.
- Developed original particle tracking code for analysis of lab-generated videos using Python.
- Created real-time data visualisation and equipment interfacing programs for lab use.
- Modelled superfluid turbulence and ran simulations using Fortran to generate large complex data sets for statistical analysis with Python.
- Presented research at international conferences QFS2021, LT29, QFS2023 and QFS2024.
- Award for best poster at QFS2023.
- Authored and published a paper in the Journal of Low Temperature Physics in 2024.

University of Bristol

MSci (Physics) Graduated 2020 – Transcript available upon request

- MSci research project, "Particle Tracking in a Compact Linear Collider", awarded a commendation.
- Gained valuable laboratory, programming, mathematical and critical thinking skills through enthusiastic participation and learning in an active research environment.

Teaching experience

Graduate Teaching Assistant - University of Manchester, Faculty of Science and Engineering (2020-2024)

- Foundations of Physics Tutorials – Classroom teaching. 4 semesters.
- Demonstrator in 2nd Year Physics Computing Labs. 2 semesters.
- Demonstrator in 2nd Year Experimental Physics Laboratory. 1 semester.
- Lead demonstrator in 2nd Year Experimental Physics Laboratory. 2 semesters.

Provided comprehensive classroom and laboratory instruction in foundational and undergraduate physics, facilitated student engagement, and led a team of demonstrators, ensuring a high standard of education and hands-on learning experience.

Further research experience

- International placement at Aalto University, Finland, working with Dr Vladimir Eltsov and Dr Jere Mäkinen 2023. Contributed by engaging in experimental activity and performing a statistical analysis of large data sets using MATLAB.
- Summer internship at the University of Bristol with Dr Martin Gradhand in 2019. A FORTRAN-based programming project to enhance the resolution of fermi-surface calculations in Density Functional Theory.

Non-academic experience

- Student Tour Guide at the University of Bristol 2017-2020.
- Student Peer Mentor at the University of Bristol 2017-2020.
- Member of the organising committee for Quantum Fluids and Solids Conference 2023.
- Café Waiter at Blue Diamond Garden Centre, East Bridgeford 2016-2017.
- Crew Member at McDonald's, West Bridgeford, 2014-2016.