Matthew Doyle

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in *matthewd0yle*

Education

2020–Present **PhD, Physics**, *University of Manchester*, Quantum Fluids Group
Research has contributed to the fields of Fluid Dynamics and Quantum Turbulence by the development of Fortran-based simulations of superfluid helium flows, an experimental visualisation of particle motion in a superfluid, and Python implementation of robust particle tracking algorithms. Responsibilities included: creation of live data visualiser and experimental control software, numerical modelling and data analysis in Python and FORTRAN, reducing simulation execution times, and the collection and management of several TB of data. Original works were presented as a published journal paper (first author), many conference presentations and award winning posters and a doctoral thesis.

2016–2020 **MSci, Physics**, *University of Bristol*, First-class honours
Thesis evaluated efficiencies of track reconstruction algorithms for tracing particle motion immediately after high-energy electron collisions within a simulated CERN detector geometry.

2014–2016 **A-Levels**, *South Nottinghamshire Academy Sixth Form*
A*AA in Maths, Further Maths and Physics respectively.

Experience

Vocational

2021–2024 **Graduate Teaching Assistant**, *University of Manchester*
Delivered tutorials, demonstrated in coding workshops and supervised and assessed students' experimental projects via interviews.
Courses:
○ Foundations of Physics
○ Foundations of ICT
○ Programming in Python
○ Experimental Laboratory Physics
○ GTA mentor – assistance training new graduate teaching assistants

2023 **International Research Placement**, *University of Aalto, Helsinki*
Performed statistical analysis of extensive data sets, using MATLAB, to gain insights for guiding experimental activity over a month-long visiting researcher placement.

2019 **Research Intern**, *University of Bristol*
Summer internship in the theoretical physics group. A FORTRAN-based programming project which enhanced the resolution of electronic structure calculations.

Miscellaneous

2023 **Conference Organiser**, *International Conference on Quantum Fluids and Solids*
Assisted in organisation of QFS2023 in Manchester: preparation of conference information booklets, organisation of photography, inviting speakers and greeting delegates.

2017–2018 **Cafe Waiter**, *Blue Diamond Garden Centres*, Nottinghamshire

Skills

Programming Python, FORTRAN, MATLAB, SQL.
Software Git, Slack, VS code, LaTeX, Notion, OriginLab, MS Office, TightVNC, Inkscape.

References available upon request.