Matthew Thompson MPhys MInstP
CV

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PROFESSIONAL SUMMARY

As an incoming Mechanical Engineering PhD student specialising in molecular modelling, I have a strong foundation in modern condensed matter research, as well as an excellent knowledge of programming in a variety of programming languages. Alongside this, my recent work as an administrator for the UNISON trade union has given me a great deal of experience working with and processing EDI data, in a confidential and professional manner.

QUALIFICATIONS

2025 –	**PhD Mechanical Engineering, University College London, UK.**
	Start date: TBC.
2019 – 2023	MPhys Physics, University of Lincoln, UK.
	Grade & graduation: Distinction, September 2023.
	Average grade (across all years): 79%
2017 – 2019	A–Levels, Ortu Sixth Form Centre – Stanford and Corringham, Corringham, UK.
	Physics – B, Mathematics – C and Music Technology – C.
2012 – 2017	GCSEs, 12 (A* – B) including Mathematics and English, Ortu Gable Hall School, Corringham, UK.

EXPERIENCE

April 2024 – Sept 2024	**UNISON Administrator, University of Lincoln, UK.**
	In this role, I am responsible for performing administrative tasks for the University of Lincoln UNISON Branch, in order to support the small and dynamic committee doing casework. This varied role requires flexibility, allowing for support to be provided where it can best be used, as well as compassionate customer service skills.
July 2023 – Sept 2024	**Graduate Researcher, School of Mathematics & Physics, University of Lincoln, UK.**
	In this role, I was responsible for performing research for the 'ICS (Physics): Open Source Software Development' project, which required a comprehensive knowledge of computational methods used in quantum chemistry/solid-state physics, strong understanding of condensed matter theory and the ability to work well within a research group.
Nov 2022 – Sept 2024	**Associate Demonstrator, School of Mathematics & Physics, University of Lincoln, UK.**
	In this role, I was responsible for assisting in the delivery of lectures, and where required, answer questions from the students. This role also required me to deliver lectures personally, most significantly in the 2nd Year Electrodynamics module. This required a broad range of subject-specific knowledge, technical skills, such as programming in a variety of programming languages, and higher education teaching skills.
Aug 2022 – July 2023	**Social Secretary, Society of Physics & Maths, Lincoln Students' Union, UK.**
	In this role, I was responsible for organising and running all social and collaborative events for the University of Lincoln Society of Physics and Maths. This involved an extensive knowledge of University health and safety practises, excellent liaison skills with other committee members and academic staff, and general management skills.

SKILLS

- Highly capable researcher in theoretical and computational physics.
- Proficient in programming in languages such as Python, C++, MATLAB and Bash.
- Experienced in higher education teaching environments, both in lecturing and assisting lecturers, in a variety of degree-level mathematics and physics topics.
- Strong presentation skills, shown through lecturing experience and various highly-marked dissertation and coursework presentations during MPhys degree.
- Experience in careful handling of EDI data through UNISON administrator role.

PROJECTS

July 2023 – Present

"ICS (Physics): Open-Source Software Development"

This project, which was awarded £7500 by the University of Lincoln, concerns continuing the development of the PyRTP program, developing Python-based teaching resources for DFT and RT-TDDFT and producing a video tutorial/lecture series on using CP2K for DFT calculations to enable new and industrial users to confidently perform these calculations, alongside documenting the impact of research on CP2K.

Feb 2023 – June 2023

"Optimisation of Time-Dependent Density Functional Theory methods in CP2K"

Undertaken for completion of the MPhys Physics course at the University of Lincoln, this project assessed whether any improvements, either to computational efficiency or accuracy, could be made to the real-time TDDFT method implemented in CP2K, through the development of the PyRTP program.

Sept 2021 – June 2022

"What does it take for electromagnetic levitation to be possible?"

Undertaken as part of the third year Physics Project module at the University of Lincoln, this project sought to formulate the equations required to determine what forms of electromagnetic levitation are possible from Maxwell's equations, assess the validity of Earnshaw's theorem for a range of different electromagnetic systems and describe some practical and theoretical applications of possible electromagnetic levitation systems.

AWARDS

2023

Edward Delaval Award - 4th Year

Awarded by the University of Lincoln School of Mathematics and Physics to the best performing student of the year across all Physics programmes in the 4th year.

2022

Edward Delaval Award - 3rd Year

Awarded by the University of Lincoln School of Mathematics and Physics to the best performing student of the year across all Physics programmes in the 3rd year.

2021

Edward Delaval Award - 2nd Year

Awarded by the University of Lincoln School of Mathematics and Physics to the best performing student of the year across all Physics programmes in the 2nd year.

REFEREES

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