Lucy Whalley

10 Ivy Avenue, Runcorn Road
Birmingham, B12 8RL

07907776356
lucywhalley@gmail.com
lucydot.github.io

Academic History

Imperial College London — London, UK
PhD in Materials Science — Oct. 2015–Sep. 2019

Birmingham City University — Birmingham, UK
PGCE in Post-Compulsory Education — Oct. 2011–Jul. 2012

University of Birmingham — Birmingham, UK
MSci in Theoretical Physics, First Class Honours — Oct. 2007–Jul. 2011

Employment History

Imperial College London — London, UK
Research Assistant in Solar Cells — Oct. 2019–Dec. 2019

Imperial College London — London, UK
Undergraduate Tutor — Oct. 2017–July 2018

Arden Primary School — Birmingham, UK
Mathematics Teacher — Jan. 2013–Aug. 2015

Anawim Women's Centre — Birmingham, UK
Research Assistant — April 2014–April 2015

Funding

Software Sustainability Institute — £3,000
Fellowship Programme — March 2019

Defect Functionalized Sustainable Energy Materials Hub — £3,000
Bilateral Exchange Bursary — Jan. 2019

Institute of Physics — £300
Computational Physics Group Travel Bursary — March 2018

EPSRC — £90,000
PhD Studentship — Oct. 2015

Research Experience

Imperial College London — London, UK
PhD Student / Research Assistant — Oct. 2015–Dec. 2019

- Modelled the structural, optical and transport properties of photovoltaic materials
- Used first-principles techniques and national/international High Performance Computing resources
- Developed open-source software to analyse electronic structure data
- Published 8 peer-reviewed journal articles and presented my work at 15 conferences/symposia, including oral presentations in the UK, Korea and France

University of Birmingham — Birmingham, UK
MSci Student — Sep. 2010–Jul. 2011

- Solved the Boltzmann transport equation to calculate the magneto-resistance of a quasi 2D metal
- Used analytical methods, e.g. the Abrikosov-Chambers method, and numerical integration routines

Teaching Experience

Postgraduate level London, UK
Software Carpentry Foundation Jan. 2018–present

- Teaching programming (Bash / Python) and version control (Git) to postgraduate students and research staff at Imperial College London
- Developing workshop materials based around the Software Carpentry scheme of work
- Developed and delivered a Python workshop for first year students in the Centre for Doctoral Training in New and Sustainable Photovoltaics

Undergraduate level London, UK
Imperial College London Sep. 2017–Jul. 2018

- Tutored mathematics to first year students on the Materials Science degree programme
- Supervised an undergraduate summer research placement in the Materials Design Group

School based Birmingham, UK
Arden Primary School / Greet Teaching School Alliance Jan. 2013–Aug. 2015

- Taught national curriculum mathematics in a state funded inner-city primary school
- Designed and delivered workshops for trainee teachers and teaching assistants

Achievements

- Awarded Thomas Young Centre at Imperial thesis prize (March 2020)
- Awarded Software Sustainability Institute Fellowship (March 2019)
- Awarded poster prize at the ICL Department of Materials postgraduate research day (March 2018)
- Certified as a Software Carpentry instructor (Dec. 2017)
- Teaching judged as Outstanding by Ofsted (July 2013)
- Qualified Teacher Learning and Skills Status awarded from the Institute for Learning (Jan. 2013)
- SWJ Smith prize for graduating with the highest mark in the MSci programme (July 2011)

Memberships and Activities

- Member of the Institute of Physics, Royal Society of Chemistry, Society of Research Software Engineers and Society for Education and Training
- Peer-reviewer for The Journal of Chemical Physics, Nature Communications and The Journal of Open Source Software
- Committee member of the Imperial College London Research Software Community
- Local co-organiser of the "Thomas Young Centre 5th Energy Workshop: From Atoms to Applications"

Selected Talks and Outreach

- [Invited panel member] "*Research software engineering best practices: why aren't we implementing them?*", Fourth Conference of Research Software Engineering, Birmingham (September 2019)
- [Outreach talk] "*My life as a Materials Scientist*", The Girls in Physics Series, London (April 2019)
- [Academic talk] "*Breaking periodicity: vibrations of defects in photovoltaic materials*", CECAM Anharmonicity and Thermal Properties of Solids, Paris (Jan. 2018)
- [Academic talk] "*Anharmonic lattice vibrations in halide perovskites: heat transport, vacancy formation, and non-radiative recombination*", International Conference on Perovskite Solar Cells and Optoelectronics, Oxford (Sept. 2017)
- [Public talk] "*Saving the world with quantum mechanics*", The Gunmaker's Arms, Birmingham (July 2017)