Lucy Whalley

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Academic History

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

Plastic Electronics Centre for Doctoral Training — £3,000
International Exchange Scholarship programme — Jan. 2019

Institute Of Physics — £300
Computational Physics Group travel bursary — March 2018

EPSRC — £64,636
PhD studentship — Oct. 2015

Big Lottery Fund — £9,790
Awards for All: South Birmingham Food Coop — Jan. 2013

Research Experience

Imperial College London — London, UK
PhD Student — Sep. 2015–present

- Modelling the structural, optical and transport properties of solid-state materials using first-principles techniques
- Research focus: the vibrational and defect properties of thin-film photovoltaic materials
- Using national and international High Performance Computing resources
- Developing open-source software to analyse electronic structure data

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

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

University of Birmingham Birmingham, UK
Summer Intern Jul. 2010–Sep. 2010

- Used Bayesian inference to analyse graviational wave data from the Laser Interferometer Gravitational-Wave Observatory

Teaching Experience

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

- Teaching programming (Bash / Python) and version control (Git) to post-graduate students and research staff at Imperial College London
- Developing workshop materials based around the Software Carpentry scheme of work

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 student completing a 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 Software Sustainability Institute fellowship (March 2019)
- Awarded poster prize at the Imperial College London 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 Teaching and Learning Status awarded from the Institute for Learning (Jan. 2013)
- SWJ Smith prize for graduating with the highest average mark (July 2011)
- Department of Physics prize for highest third year average mark (July 2010)

Memberships and Activities

- Member of the Institute of Physics and Royal Society of Chemistry
- 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

- [Outreach talk] "*My life as a Materials Scientist*", The Girls in Physics Series, London (April 2019)
- "*Breaking periodicity: vibrations of defects in photovoltaic materials*", CECAM anharmonicity and thermal properties of solids, Paris (Jan. 2018)
- "*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)