

# Adam R. Symington

THEORETICAL CHEMIST · DATA SCIENTIST · PROGRAMMER

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## Research Experience

### Postgraduate Research, Computational Chemistry (Prof Stephen C. Parker)

*Bath, England*

PHD PROJECT: "THE EFFECT OF MICROSTRUCTURE AND IMPURITIES ON TRANSPORT IN ACTINIDE OXIDE FILMS"

*October 2016 - March 2019*

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### Undergraduate Research, Computational Chemistry (Prof Stephen C. Parker)

*Bath, England*

MASTERS RESEARCH PROJECT: "CERIUM OXIDE NANOZYMES - A COMPUTATIONAL STUDY"

*October 2015 - June 2016*

- Part of an international collaboration between the University of Bath, University of Kent and the University of Central Florida.
- Resulted in a publication, Computer-Aided Design of Nanoceria as an Enzyme Mimetic Agent; a Prescription to Maximise its Activity, ACS Applied Bio Materials.
- This project and collaboration have continued into my PhD and a second publication is currently in preparation.

### Collaborative Computational Projects 5 (CCP5) Summer Studentship

*Bath, England*

SUMMER STUDENTSHIP

*June 2015 - October 2015*

- Undergraduate studentship funded by CCP5 investigating heavy metal adsorption at clay surfaces.
- The project was presented at the 2015 annual CCP5 conference.

## Education

### PhD - Chemistry

*Bath, England*

UNIVERSITY OF BATH

*October 2016 - March 2020*

- Carried out a project under the supervision of Prof. Steve Parker on computational studies of interfaces in materials.
- Used a variety of codes and techniques to accurately model grain boundaries, surfaces and bulk materials.
- Developed new analysis software and techniques, which I used to discover trends in large datasets.

### MChem - Chemistry with Drug Discovery

*Bath, England*

UNIVERSITY OF BATH

*October 2012 - June 2016*

- Degree Classification: **II:1**
- Masters project - Cerium Oxide Nanozymes - A computational study.

## Teaching Experience

### University of Bath Chemistry Department

*Bath, England*

POSTGRADUATE TEACHING ASSISTANT

*October 2016 - Present*

- Throughout the duration of my PhD I have taught undergraduate chemists how to program, specifically focusing on high level programming in **Python** and low level programming in **fortran**.
- I developed a new masters level course focusing on using **Python** programming to better understand and make predictions about the behaviour of materials.
- Part of an ongoing project to develop a new masters course focusing on teaching students how to use **Python** in data analysis.
- I have worked as a teaching assistant on the Bath University doctoral college introduction to programming course. During this I taught the basics of programming to other postgraduate students.

MATHS FOR CHEMISTS LECTURER

*October 2016 - Present*

- Delivery of workshops in fundamental mathematical concepts for chemists, ensuring that all chemistry first year students had a consistent mathematical background.

## Publications

A. R. Symington\*, M. Molinari, J. S. Statham, J. Wu, S. C. Parker The role of dopant segregation

on the oxygen vacancy distribution and oxygen diffusion in CeO<sub>2</sub> grain boundaries, 2019. Journal of Physics: Energy 1(4) DOI: <https://doi.org/10.1098/rsta.2019.0026>. 1. Denotes corresponding authorship. \*

## Awards

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### INTERNATIONAL

2018 **Winner**, Materials Science and Metalurgy Award - Plutonium Futures the Sciences 2018

*San Diego, USA*

### DOMESTIC

2019 **Winner**, Computational Chemistry Prize - Bolland Symposium

*Bath, England*

2019 **Winner**, Best Presentation - High Performance Computing Symposium

*Bath, England*

2018 **Winner**, Computational Chemistry Prize - Bolland Symposium

*Bath, England*

2017 **Winner**, Material Horizons Award - Solid State Chemistry Group

*Reading, England*

2017 **Runner Up**, Computational Collaborative Project 5 AGM - Presentation Award

*Glasgow, Scotland*

## Committees and Organisations

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### Chemistry Postgraduate Exec Committee

*Bath, England*

#### SECRETARY

*2017/18*

- Committee responsible for organising events within the chemistry department.
- Organised the annual Bolland symposium.
- Responsible for organising external speakers and securing funding.

### University of Bath Cricket Club

*Bath, England*

#### SECRETARY

*2013/14*

- Committee responsible for organising games, training and social events.

## Extracurricular Activity

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### Senior Golf Caddy

*Newcastle, N.I*

#### ROYAL COUNTRY DOWN GOLF CLUB

*June 2009 - October 2016*

- Annual summer job during my high school and university career.
- This job involved quickly building a strong working relationship with a international clients in order to provide advice and knowledge on the course.
- I have also been a playing member of the club from 2012 - Present and I play to a handicap of 16.

### Player / Coach / Captain

*Newcastle / Bath*

#### DUNDRUM CC | UNIVERSITY OF BATH CC | ROYAL OAK CC | SOUTHSTOKE CC

*2000 - PRESENT*

- I have played cricket as a member of several clubs since the age of 8.
- I played at Dundrum CC between the ages of 12 -24 and captained the first XI during the 2014-2016 seasons.
- I coached the U15/U13/U11 teams at Dundrum for 6 years.

### Cycling

I am a keen cyclist in my spare time and in 2018 I participated in a charity cycle between Lands end and Bristol, raising £4000 for the MS society.