

Dr. Rosalyn L. Falconer

Email: rosalynfalconer@gmail.com; www.linkedin.com/in/rosalyn-falconer; ORCID: 0000-0002-1254-0755

Research Profile

I am a postdoctoral researcher with **excellent skills in air-sensitive chemistry**, particularly the synthesis and manipulation of highly reactive compounds. I trained at top institutions in the UK and I regularly publish regularly in **high impact** journals, including two publications in the last year in *Angewandte Chemie International Edition*, the latest of which was highlighted as a VIP.

I have been awarded numerous prizes for **academic and research excellence**. I am constantly striving to improve my skills through courses in scientific and transferrable skills, including two leadership conferences for which I was awarded competitive bursaries to attend. I was **awarded funding** for an independent research project.

I am passionate about giving back to the chemistry community, through my work on Royal Society of Chemistry Committees, where I **organised events** for early career researchers to showcase their research and teach techniques for resilience. I have **designed and delivered outreach activities** for the public. I am a **proven leader** with extensive experience in supervision and teaching. I lead **collaborations** with computational and synthetic researchers, which has resulted in several publications.

Professional Experience

01/11/2021 – present **Chercheur en Chimie Organométallique de Surface et Catalyse**

Supervised by Dr Clément Camp and Dr Chloé Thieuleux

Laboratory of Catalysis, Polymerisation, Processes and Materials (CP2M), CNRS, Lyon, France

Research aim: synthesise heterobimetallic complexes and immobilise on silica surfaces. Test and optimise their activity in hydrogen-deuterium exchange catalysis for application in labelling studies in pharmaceutical industries.

06/11/2017 – 26/10/2021 **Postdoctoral Research Associate**

Supervised by Dr. Michael Cowley, University of Edinburgh

Research aim: synthesise novel aluminium(I) compounds and investigate their reactivity towards catalysis. Aluminium is the most abundant metal in the Earth's crust, so using it in catalysis would decrease costs and environmental impact compared to transition metals traditionally used for catalysis such as Rh, Pd and Pt.

- Established the project and **achieving the ambitious goal** of my employment by synthesising an aluminium(I) compound (published in *Angew. Chem. Int. Ed.*). Showed by NMR spectroscopy and reactivity studies that this Al(I) compound exists in equilibrium between monomer and dimer, the first Al example to do so.
- **Devised and published** protocol for synthesising Al(II) hydrides. Showed with X-ray crystallography and multinuclear NMR spectroscopy that these Al(II) hydrides undergo **reversible reductive elimination**, which is rare for Al and a key step for catalysis (published in *Angew. Chem. Int. Ed.*).
- **Devised and published** protocol for synthesising novel aluminium(III) dihydrides substituted by N,P-donor ligands and investigated their structure (multinuclear solution and solid state NMR spectroscopy, X-ray diffraction, IR and mass spectrometry), reactivity and catalytic capabilities (published in *Inorganic Chemistry*).

Education

23/09/2013–16/01/2018 **Ph.D. in Synthetic Inorganic Chemistry**

University of Bristol, Bristol Chemical Synthesis Doctoral Training Centre (BCS CDT)

Supervised by Dr. Chris Russell (Bristol) and Prof. Doug Stephan (University of Toronto)

Thesis title: Direct Activation of Small Molecules by Main Group Aromatics

Funded by **University of Bristol Scholarship**, awarded for academic excellence.

First year **intensive training** programme in synthetic chemistry and professional development:

- **Interdisciplinary lab placements** in organic methodology (Dr. John Bower), phosphine ligand design and transition metal catalysis (Prof. Paul Pringle). Quickly adapted to new lab environments and developed skills in advanced techniques. Used the organic synthetic skills in my PhD project to develop new purification protocol for a phosphalkyne, and the ³¹P NMR techniques (including analysis of complex spin systems) during my PhD and postdoctoral research to analyse novel compounds such as Al(II) complexes.

Researched main group aromatic compounds as alternatives to transition metals for activation of small molecules.

- Worked confidently with **highly pyrophoric** compounds at a large laboratory scale (up to 65 g of sodium metal).
- **Determined and published** how a triphosphabenzene reacts with silanes, germanes and stannanes (*Chemistry – A European Journal*). Determined reactivity with ethylene including **kinetic analysis**.
- **International placement** (1 month, University of Toronto, Canada): established collaborations (2 publications)

01/10/2009–13/07/2013 **MChem (Oxon), First Class**

St. Hilda's College, University of Oxford

- Average 82% in final examinations including 95% in options module. Overall degree mark of 79%
- Received **three prizes** for academic excellence (See prizes section below)

Master's project under supervision of Prof. Andrew Weller entitled: 'Mechanistic studies of dehydrocoupling of phosphine-boranes using rhodium-hemilabile ligands as catalysts'.

Summer lab placement with Prof. Andrew Weller funded by competitive EPSRC summer bursary.

Publications

Reversible Dissociation of a Dialumene (*VIP research article*)

R. L. Falconer, K. M. Byrne, G. S. Nichol, T. Krämer, M. J. Cowley

Angewandte Chemie – International Edition, Accepted Article DOI: 10.1002/anie.202111385

Scientific Significance: Synthesis of first isolable dialumene (Al=Al compound) that dissociates to two Al(I) monomers in solution. Our computational and experimental investigations enable the design of such compounds to exhibit desired properties such as existing as monomers or dimers, or exhibiting trans-bent geometries.

Highlighted on chemistryviews.org

Reversible reductive elimination in Al(II) dihydrides

R. L. Falconer, G. S. Nichol, I. V. Smolyar, S. L. Cockroft, M. J. Cowley

Angewandte Chemie – International Edition, 2021, 60, 2047–2052

Scientific Significance: Synthesis of a series of Al(II) dihydrides, in which stereoactive ligands revealed reversible oxidative addition/reductive elimination. Reductive elimination in main group compounds is very rare, so the insight we provide is key to better understanding these reactions and unlocking redox catalysis by main group elements.

Hydrofunctionalisation of an Aromatic Triphosphabenzene

R. L. Falconer, J. E. McGrady, M. Green, D. W. Stephan, D. Zeng, C. A. Russell

Chemistry – A European Journal, 2019, 25, 12507–12511

Scientific Significance: Understanding small molecule activation by main group compounds will be essential to expanding their use in catalysis. This work expands the range of molecules that can activate small molecules to include main group aromatics by describing its activation of E–H bonds and investigating the mechanism by DFT.

Flexible Coordination of N,P-Donor Ligands in Aluminum Dimethyl and Dihydride Complexes

R. L. Falconer, G. S. Nichol, M. J. Cowley

Inorganic Chemistry, 2019, 58, 17, 11439–11448

Scientific Significance: Aluminium hydrides are useful as main group catalysts, providing environmental and economic advantages over rare and expensive transition metals such as Pd and Pt. This paper describes novel methodology for synthesising aluminium hydrides featuring phosphorus donor ligands and shows their catalytic activity in hydroboration, enabling a wider range of aluminium catalysts for to be synthesised for further catalytic capabilities. This work formed the basis of 2 PhD student research projects in the Cowley Group.

Oxidative Addition, Transmetalation, and Reductive Elimination at a 2,2'-Bipyridyl-Ligated Gold Center

M. J. Harper, C. J. Arthur, J. Crosby, E. J. Emmett, R. L. Falconer, A. J. Fensham-Smith, P. J. Gates, T. Leman, J. E. McGrady, J. F. Bower, C. A. Russell

Journal of the American Chemical Society, 2018, 140, 12, 4440–4445

Carried out all X-ray diffractometry. Designed and provided technical help for experiments using gaseous reagents.

Scientific Significance: Gold has low toxicity so is desirable for late-stage functionalisation catalysts but is usually considered inert. This paper describes the first example of a gold complex demonstrating the fundamental steps of cross-coupling catalysis and will be instrumental in developing gold catalysed cross-coupling reactions.

A Transient Vinylphosphinidene via a Phosphirene–Phosphinidene Rearrangement

L. L. Liu, J. Zhou, L. L. Cao, R. Andrews, R. L. Falconer, C. A. Russell, D. W. Stephan

Journal of the American Chemical Society, 2018, 140, 1, 147–150

Established collaboration during placement at the University of Toronto. Provided pyrophoric starting materials.

Scientific Significance: Methodology to synthesise a rare 2*H*-phosphirene (3-membered ring featuring phosphorus) and details of its ready activation of C–N and C–C bonds *via* an elusive and reactive vinylphosphinidene. This will facilitate the synthesis of new organic scaffolds featuring P.

Hydroboration of Phosphaalkynes by HB(C₆F₅)₂

L. E. Longobardi, T. C. Johnstone, R. L. Falconer, C. A. Russell, D. W. Stephan

Chemistry – A European Journal, 2016, 22, 12665–12669

Established collaboration during placement at the University of Toronto. Provided pyrophoric starting materials.

Scientific Significance: Compounds featuring phosphorus and boron are of significant interest in Frustrated Lewis Pair chemistry for the activation of small molecules, and in materials chemistry for their interesting electronic properties. This work enables the synthesis of novel P and B containing compounds by developing methodology for the hydroboration of phosphaalkynes and the subsequent reactivity of the P and B containing products.

1,3,5-Triphosphabenzene: Synthesis, reactivity and theory

R. L. Falconer, C. A. Russell

Coordination Chemistry Reviews, 2015, 297–298, 146–167

Scientific Significance: This review details the chemistry of a main group aromatic compound, highlighting and

inviting further research into how the inclusion of heteroatoms into aromatic systems can enable interesting coordination chemistry with metals or small molecule activation for potential uses in catalysis.

Conference Contributions

- 13-20/08/2021 **Oral Presentation** at IUPAC Canadian Chemistry Conference (Online, Canada)
- 29/06-01/07/2021 **Oral Presentation** at Royal Society of Chemistry Dalton Conference 2021 (Online, UK)
- 30/06-5/07/2019 **Oral Presentation** at 13th International Conference on Heteroatom Chemistry (Prague)
- 3-7/06/2019 **Oral Presentation** at 102nd Canadian Chemistry Conference and Exhibition (Quebec City)
- 25/05/2019 **Invited Lecture** at University of British Columbia
Part of visit to receive Early Career Invited Lecture Award
- 22/03/2019 **Invited Oral Presentation** at University of Edinburgh Postdoctoral Researcher Seminar
- 3-4/09/2018 **Chair of session** at Universities of Scotland Inorganic Conference (Edinburgh)
- 24-29/06/2018 **Oral Presentation** at 15th International Symposium on Inorganic Ring Systems (Kyoto)
- 31/05/2018 **Chair of session** at Joseph Black Conference (Edinburgh)
- 3-5/04/2018 **Oral Presentation** at Royal Society of Chemistry Dalton Conference 2018 (Warwick Univ., UK)
- 28/05-1/6/2017 **Oral Presentation** at 100th Canadian Chemistry Conference and Exhibition (Toronto)
- 05/07/2017 **Poster Presentation** at Bristol Chemical Synthesis CDT Summer Conference
- 27/03/2017 **Poster Presentation** at RSC Dalton Division Sir Geoffrey Wilkinson Poster Symposium (London)
1st Prize in Ph.D. Student Category
- 25/01/2017 **Invited Oral Presentation** at Student-led CDT seminar series (Bristol)
- 04/02/2016 **Invited Oral Presentation** at Bristol Departmental Inorganic Symposium
- 26-31/07/2015 **Poster Presentation** at 14th International Symposium on Inorganic Ring Systems (Regensburg)

Royal Society of Chemistry Committees

- 11/07/2018-present **Elected Member of Dalton Division Council, Royal Society of Chemistry**
- **Elected** twice by members of the Royal Society of Chemistry Dalton (Inorganic) Division based on written candidate statement, demonstrating my **written communication skills**.
 - Used my **negotiation and verbal communication skills** to represent views of members.
 - **Influenced policy** documents of the Royal Society of Chemistry including the recent “Scientific Horizons” report into direction, potential and needs of scientific research and development in the next 10-15 years to include clauses on the importance of curiosity driven research.
 - **Influenced review of prizes** awarded by the Dalton Division by making recommendations to recognise teams and Early Career Researchers in scientific breakthroughs, which were adopted leading to new prizes rewarding all contributors on impactful publications. Advocated for increasing gender diversity of applicants by targeted advertisement of prizes and simplifying the nomination procedure.
 - **Networked** with the diverse members of the committee (e.g. students, academics, journal editors, Royal Society of Chemistry staff and industry representatives).
 - **Evaluated grant applications** as a member of Dalton Division Travel Grants Committee, assessing the scientific quality of abstracts submitted and the appropriateness of conference selected.
- 22/05/2018-01/01/2020 **Member of Royal Society of Chemistry Edinburgh and South East Scotland Council**
- **Organised** event on resilience for researchers in chemistry (see “The Resilient Chemist” in Event Organisation section below).

Posts of Responsibility

- 01/09/2014-31/08/2015 **Bristol Chemical Synthesis Centre for Doctoral Training Student Representative**
- **Represented** student body to the Management Committee (including heads of department and course organisers)
 - **Proactively engaged** the student body *via* email and face-to-face discussions to collect feedback, which I **clearly communicated** to the Management Committee, then suggested feasible resolutions or improvements.
 - **Negotiated** with the Management Committee to **alter course structure** to move some professional development courses from the final year to decrease student stress. **Positively engaged** course organisers to communicate more clearly with the student body and to involve them more in major decisions to improve transparency.

Funding, Bursaries and Grants

- 29/01/2021 **ScotCHEM Early Career Researcher Bursary** (£500)
- Competitive award based on quality of written research proposal.
 - Used to fund an independent research programme into the synthesis of novel Al=P bonds.
- 21/01/2020 **Bursary to attend Ingenious Women Leadership Programme** (£933)
- Competitive award based on leadership potential (see courses section below).
- 06/07/2019 **Bursary to attend Aurora Leadership Programme** (£1,000)
- Competitive award based on leadership potential (see courses section below).
- 01/03/2015 **Bursary to attend 15th Chemical Crystallography Group of the British Crystallographic**

Association Intensive Teaching School in X-ray Structure Analysis (£900)

23/09/2013–16/01/2018 **University of Bristol Postgraduate Scholarship** (£85,940)

- Awarded based on academic excellence. Provided studentship, tuition, and bench fees for 3.3 years of Ph.D.
- Further £39,060 awarded by EPSRC for place at Bristol Chemical Synthesis Centre for Doctoral Training.

01/05/2011 **EPSRC Studentship for 7-week Summer Project** (£2,000)

- Competitive bursary awarded for academic excellence to work in Prof. Andrew Weller's laboratory at the University of Oxford.

Prizes and Awards

26/3/2021 **European Commission Seal of Excellence**

- Scored 89.2% in Horizon 2020 Marie Skłodowska-Curie Action Individual Fellowship funding application

25/05/2019 **University of British Columbia Early Career Invited Lecture Award** (2,250 CAD)

- Based on **research excellence**, awarded visit to UBC to give 60-minute lecture on my research and network with academic staff and students.
- Interviewed by the Women in Chemistry Society on gender inequalities in chemistry and how we can promote diversity in science (published on their Facebook page).

23/03/2017 **1st Prize at RSC Dalton Division Sir Geoffrey Wilkinson Poster Symposium** (£800)

- 1st Prize in Ph.D. Student Category based on the poster itself and my verbal presentation skills.
- One of 35 chosen to present at symposium from 131 abstracts.

01/06/2012 **Olive Ward Prize for Academic Excellence Chemistry** (£100)

10/09/2011 **First Prize for Mathematical, Physical and Life Sciences Division Vacation Bursary Poster Presentation** (£100)

- Awarded based on poster and verbal presentation skills of work completed on EPSRC funded summer placement.

05/07/2011 **Fitzgibbon Scholarship in Chemistry** (£200)

- Awarded for achieving a 1st classification in examinations.

04/07/2010 **Fitzgibbon Prize for Chemistry** (£80)

- Awarded for achieving academically and being involved in sport at St. Hilda's College, University of Oxford.

Event Organisation

28/06/2021 **Royal Society of Chemistry Dalton Younger Members Event**

- **Collaborated** to design the event with postdoctoral and Ph.D. representatives from the Dalton Division Council.
- **Generated ideas** including "meet the speakers" informal sessions for delegates to meet and ask careers focussed questions to RSC prize winners and speakers. These sessions formed the main sessions of the event.
- Used my **network** to recruit two speakers for panel discussion on careers in chemistry.

21/10 and 16/12/2020 **Royal Society of Chemistry Dalton Division Virtual Early Career Researcher Symposia**

- Established **international** symposia for early career researchers who should have presented at international conferences that were cancelled due to COVID-19 pandemic.
- **Collaborated** with PhD and Postdoctoral representatives on the organising committee.
- Made recommendations for structure of event to include talks from final year PhD students and postdoctoral researchers and a keynote Royal Society of Chemistry prize winner which led to this format being used.
- Advocated for networking and question session to follow the talks to increase impact of the event.

13/11/2018 **"The Resilient Chemist" Event** (Royal Society of Chemistry Local Section & Univ. of Edinburgh)

- **Organised event** with 4 other panel members. Negotiated aim of event to target Early Career Researchers and provide methods of resilience as they key message.
- **Organised speaker** for the event to speak on personal experience of mental health whilst completing a PhD.
- Attended by 30 early career researchers, who each left with a personalised resilience plan developed in the session.

Project Management and Leadership

- **Manage** research direction, time, and resources. In 4 years, I achieved the primary research goal of the highly ambitious grant on which I am employed.
- **Manage consumables budget.** During my PhD, I balanced purchasing of chemicals, lab equipment and travel. I attend multiple international conferences and funded a placement at the University of Toronto.
- Decided which academic conferences to target and **promote my research** to expert audiences leading to 7 very well attended oral contributions at international conferences.
- **Wrote 4 first author research publications** for expert (*Inorganic Chemistry*) and general chemistry (*Angewandte Chemie – International Edition* and *Chemistry – A European Journal*) audiences.
- **Promoted my research** to lay audiences by designing and facilitating activities at 2 outreach events (see below).
- **Delegate** tasks to PhD students to aid their professional and technical development (inc. undergraduate project supervision, rota systems in the laboratory and for group meetings).
- **Manage stakeholders** by writing progress reports for funding agency on research, dissemination, and outreach.
- **Manage** the laboratory including **resources and instrument** maintenance (glove boxes, vacuum pumps, etc.).

- **Establish and train others in procedures** for new and existing equipment such as gloveboxes.
- **Responsible for successful requisition** of new equipment with value of >£2,000.
- I am a **Role Model** through my extensive voluntary work with the Royal Society of Chemistry, Inclusion and Diversity work and at outreach events (see relevant sections for details).
- **Panel member** for interviews of two postdoctoral researchers. Asked questions and provided feedback on which candidate to offer the position. The candidate I recommended was offered the position on both occasions.
- **Generate ideas** for undergraduate student projects (including a recent Erasmus student).
- **Draft grant applications** in collaboration with Dr Cowley (for projects up to £300,000). Generate ideas and write applications then co-edit with Dr Cowley. Currently in 2nd round for Leverhulme Trust Research Project Grant.

Collaborations

- Built **collaborations** during a placement in University of Toronto with Prof Doug Stephan and his group, resulting in two publications. I provided starting materials and analytical insight essential for the projects.
- **Collaborated** with researchers at the University of Bristol and University of Oxford working in gold chemistry, resulting in a high impact publication in *The Journal of the American Chemical Society*. The technical assistance I provided in designing experiments was essential for synthesising key compounds for the study.
- **During collaborations** with computational chemistry colleagues at the Universities of Oxford (Prof J. McGrady), Edinburgh (Prof S. Cockroft) and Maynooth (Dr T Krämer), I provided experimental insight to understand the structure and reactivity of novel compounds resulting in publications in *Chemistry – A European Journal* and two in *Angewandte Chemie – International Edition*. For ongoing work with Dr Krämer, I organise meetings and prepare summary documents and presentations to communicate our findings and suggest calculations to perform.
- **Collaborated** with PhD students in the Cowley group on projects in phosphorus and boron chemistry to synthesise key compounds and provide technical assistance (*two manuscripts in preparation*).

Supervising and Mentoring Activities

- **Supervised** undergraduate projects (2 BSc and 5 Masters'), postgraduate placements (3 students for 7 weeks each) and co-supervised 2 PhD students.
- **Generate ideas and direct projects** in varied topics such as main group synthesis and transition metal catalysis.
- **Supervise, direct projects, teach technical skills** and provide **problem-solving** help for experimental and analytical difficulties.
- **Mentor** postgraduate students through their projects, output preparation (theses, presentations and publications), career paths and aid in CV preparation (for positions in industry or academia).
- **Supervised** summer student (06-08/2018): devised experiments, taught practical techniques and mentored her towards her goal of studying for PhD, leading to her being awarded a place at the University of Oxford).
- **Royal Society of Chemistry Mentor** for early career researcher; help her establish and achieve her career goals.
- **Mentor for Bristol Mentors Programme** for female student from underrepresented social background.

Teaching Experience

26/05/21 **Associate Fellowship of the Higher Education Academy (AFHEA)**

- Demonstrated commitment to professionalism in learning and teaching in higher education.
- Participated in peer observation exercises and personal reflection to assess and improve my teaching.

21/09/2020-01/04/2021 **Tutor for First Year Chemistry Undergraduate Workshops, University of Edinburgh**

- **Taught** first year undergraduate students fundamental chemistry concepts such as molecular orbital theory.
- Used **online** tools to teach range of tutor group sizes from 3 to 20.
- Varied techniques to the topic, level and number of the students present.

29/01-26/03/2019 **Tutor for “Biological Chemistry” Undergraduate Workshops, University of Edinburgh**

- Taught first year undergraduate students studying for degrees such as medicine and biology (group sizes 2-25).
- **Tailored teaching style** to group size: used mixture of “lecture style” teaching and group exercises to engage larger groups and taught smaller groups with mixture of whiteboard work and individual questions and feedback.
- Used varied explanations of concepts to the students as many found chemistry and maths challenging.
- Received **letter of recommendation** from Director of Teaching detailing my “aptitude for teaching at this level”.

05/03/2015-06/03/2017 **Student-led Workshops for Postgraduate Students, University of Bristol**

- **Designed** problem sessions and led workshops for postgraduate students from the Bristol Chemical Synthesis CDT and within group meetings on topics such as advanced NMR spectroscopy and main group chemistry.
- **Tailored** the problems to level and number of students present so they were challenging but rewarding.
- Received very positive feedback from students and course organiser. **Invited** to repeat the course for 2 years.

01/10/2014-01/07/2016 **Demonstrator in Undergraduate Chemistry Laboratories, University of Bristol**

- Supervised undergraduate students for practical experiments in synthetic chemistry in groups of 12-16. Taught practical skills including the use of the Schlenk line for synthesising compounds sensitive to air and water.
- **Devised assessment questions** to probe understanding and assigned marks based on safety, technical skills,

understanding of the experiments and background knowledge.

- **Proactively** engaged with lab course organisers to **improve experiments and student experience** resulting in changes to experiments to make them more reliable and laboratory manuals to increase clarity of instructions.

Inclusion and Diversity Voluntary Work

06/01-17/02/2020 **Evaluation Panel, Athena Swan Application, School of Chemistry, University of Edinburgh**

- **Evaluated data** collected for the school on its approaches for promoting gender equality.
- Discussed with students, professional services and academic staff panel members including heads of department.
- **Generated ideas** for improving gender equality within the School of Chemistry and **negotiated** the inclusion of actions to recognise the contribution of postdoctoral researchers to evidence career progression within their roles.

25/05/2019 **Interview for University of British Columbia Women in Chemistry Society**

- Interviewed by postgraduate students during prize visit to UBC (published on the society Facebook page).
- Discussed topics such as the barriers to success for women in the chemical sciences and the low levels of retention of women in senior positions in academia.

13/11/2018 **“The Resilient Chemist” Event** (see Event Organisation section above)

11/05/2018 **Investigating Mental Health in the Research Community Event** (led by academic institutes including Royal Society, Royal Society of Chemistry, Royal Institute of Physics)

- Attended information session on the growing effects of mental health issues in the research community.
- Engaged actively and generated ideas in workshop providing realistic actions for academic institutes, funding bodies and university departments to promote good mental health for researchers.

Public Engagement

29/09/2018 **Explorathon 2018 (European Researchers’ Night)**

- **Communicated** my research to *ca.* 90 members of the **public of all ages** in a shopping centre in Edinburgh.
- **Designed engaging resources** for use during discussions: a poster with a multiple-choice question on my research (“What is the most abundant element in the Earth’s crust?”) on which the public could vote, a visual prop indicating the uses of aluminium in daily life, a molecular model of an aluminium containing chemical I use, a piece of aluminium foil used to indicate how small atoms are to children.
- Regularly praised for excellent communication and presentations by outreach facilitators.

28/09/2018 **Cutting Edge Science Presentation**

- **Designed and gave** an oral presentation on my current research to secondary school teachers.
- Highlighted how my research impacts on students’ everyday lives and current affairs such as climate change.
- **Tailored** information to be at a suitable level for the teachers to communicate to their students.

14/05/2014-01/02/2017 **Outreach Demonstrator (University of Bristol open days and outreach events)**

- Supervised groups of secondary school students at outreach events or students and their parents at open days.
- Used my verbal communication skills to engage individuals at a level they could understand and answer their questions on the experiment, techniques, and chemistry in general.

Courses Attended

01-12/06/2020 **Rigaku School of Practical Crystallography**

- Passed exam with honours at end of webinar series on practical crystallography.

02/05-03/10/2020 **Ingenious Women Programme (University of Edinburgh)**

- Leadership development programme where I developed **entrepreneurial capabilities**, higher-level **employability skills**, **creativity**, **confidence**, and **leadership skills**.
- **Competitive** application based on leadership potential (awarded £933 bursary to attend).

05/11/2019-03/03/2020 **Aurora Leadership Programme (Advance HE)**

- National course by Advance HE for future female leaders.
- Awarded **competitive** £1,000 bursary to attend based on leadership potential.
- Learnt leadership skills such as **negotiation**, **management** of teams and **politics in higher education**.
- Worked on professional development and career plans with a peer network and **mentor**, resulting in positive changes to my working style such as increased **delegation** and **improved communications** with senior staff.

21-29/03/2015 **15th BCA/CCG Intensive Teaching School in X-ray Structure Analysis**

- Advanced workshop for X-ray crystallography from theory to practise (awarded £900 bursary to attend).

7-8/04/2014 **Olex2 Workshop**

- Learnt to use Olex2 software for solving X-ray Crystal structures (used for 3 publications to date).

Languages

16/08/2007 A* GCSEs in French and German

14/04/2021 – present University of Edinburgh Short Courses in French (intermediate, B1 standard)