Oliver Hagger

London, UK | (+44) 07450205466 | ohagger@icloud.com | LinkedIn | Website | Twitter
MChem, PGCE, MRSC

Personal Summary

I have a strong background in leading research projects and managing multi-national collaborations, with expertise in programming, data visualisation, and scientific writing. I have multiple publications in top-tier, peer-reviewed journals. My academic achievements include a soon-to-be-completed Doctor of Philosophy from University College London in partnership with DSTL, complemented by hands-on research experience at renowned institutions such as Brown University and the University of Southampton.

RELEVANT PUBLICATIONS

O. S. J. Hagger, et. al., Materials Advances, 2023, 4, 3239 – 3245
F. Lockwood Estrin, O. S. J. Hagger, et. al., Advanced Materials Interfaces, 2024, 2400256
S. Agrotis, O. S. J. Hagger, et. al., Applied Materials Today, 2024, 39, 102286

GRANTS AND AWARDS

Explosives and Chemicals Vapour Sensor with Integrated Sensor Regeneration (£30,000)
UCL EPSRC IAA 2022-25 Impact Acceleration (£10,000)
Analytical Chemistry Trust Fund Grant (£750)
Researcher Development Travel Grant (£500)

RESEARCH EXPERIENCE

Material Chemical Engineer Ph.D. **London, UK**
DSTL & University College London September 2021 – Present

- Led metallic materials development, including selection and technical development.
- In-depth knowledge of metallic materials and coatings applications.
- Manage and deliver materials-based projects within strict timelines.
- Experience leading and completing risk assessments, and COSHH forms and SOPs.
- Demonstrated strong communication skills by presenting at multiple international conferences.
- Conducted complex CFD simulations to analyse fluid flow and heat transfer.
- Perform failure investigations for in-service, testing, or production issues.

Techniques: 3D printing, AFM, Light microscopy, Mass spectrometry, Raman, SEM, SERS, TEM, UV-Vis, XPS, and XRD.

CO_2 Conversion Scientific Researcher **Brown University, Rhode Island, USA**
Brown University June 2019 – September 2019

- Facilitated weekly meetings to review progress & identify solutions, resulting in a reduction of errors.
- Conducted ring-opening reactions of epoxides for the synthesis of compounds in CO2 conversion processes.

Techniques: GC, HPLC and NMR.

Metal-Organic Framework (MOF) Researcher **Southampton, UK**
University of Southampton September 2018 – May 2019

- Collaborated with a multidisciplinary team of scientists
- Conducted MOF synthesis to investigate catalysts and advance green chemistry innovations

Techniques: IR, Mass spectrometry, PXRD, SCXRD, and TGA.

EDUCATION

Ph. D., Materials Chemical Engineering **University College London, UK**
MChem, Chemistry – *Second Division Upper Class* **University of Southampton, UK**
A-levels – *Chemistry (A), Mathematics (A), AS Physics (A), Biology (B)* **Cedars Upper School, UK**

SKILLS & INTERESTS

Skills: Collaboration, Data visualisation, Leadership, Problem solving, Project management, Public speaking, Scientific writing, and Advanced characterisation techniques.
Programming Languages: HTML, CSS, Latex, Python, R, SQL.
Visualisation and design: Adobe Suite, Blender, Fusion 360, Inkscape, Microsoft Office, PowerBI, Tableau.
Languages: French (Beginner/Intermediate)
Interests: Fitness, healthy cooking, independent learning, public speaking, and travel

WORK EXPERIENCE

Educator **London, UK**
University College London September 2021 – Present

- Instructed an advanced analytical chemistry master's module, guiding students in creating cutting-edge sensors by utilising Arduino devices.
- Delivered comprehensive assistance in statistical modelling, enhancing the interpretation and analysis of data.

Educator **Bedfordshire, UK**
Bedfordshire College September 2020 – September 2021

- Organised and facilitated public speaking workshops for teachers, improving teacher confidence levels and leading to more engaging classroom discussions.
- Developed and delivered engaging lesson plans to over 100 students, resulting in a 90% pass rate.

Data Analyst **London, UK**
QA June 2020 – September 2020

- Delivered ad-hoc analysis to 40+ clients, meeting objectives within budget.
- Produced campaign analyses for clients, uncovering trends & providing actionable recommendations.
- Used SQL, Python and R for predictive modelling and statistical inference.

Computational Researcher **Southampton, UK**
National Crystallography Centre September 2019 – June 2020

- Managed the handling of confidential client data while conducting comprehensive research on the properties of crystals using single-crystal X-ray diffraction techniques.
- Harnessed Diamond Light Source facilities to analyse and produce detailed reports.
- Collaborated with Rigaku and Merck to optimise SCXRD techniques.

PERSONAL PROJECTS

- **Daily Commute Analysis** – Conducted an in-depth analysis of my daily commute, extracted from my Apple Watch, utilising R and Tableau to showcase critical insights, including optimal travel times.
- **Premier League VAR Analysis** – Explored insights into the impact of VAR (Video Assistant Referee) in the Premier League by web scraping relevant data and manipulating it using R. The visualisation, carried out using Inkscape, revealed trends in VAR decision-making.
- **Premier League Simulation** – Simulated the forthcoming Premier League season through 10,000 iterations of Monte Carlo simulations to forecast the final table, considering various statistical factors like team form and player injuries.

VOLUNTEERING

Sports

- Raised over £1500 for **Brain Tumour Research** and The **British Heart Foundation** by completing multiple half and full marathon events.

REFERENCES

Available on request