Oliver Hagger

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MChem, PGCE, MRSC

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

RESEARCH EXPERIENCE & EDUCATION

DSTL & University College London **London, UK**
Doctor of Philosophy Chemistry September 2021 – Present

- Lead metallic materials development activities, including materials 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.
- Broad experience in characterisation techniques, and presentation of clear concise data analysis
- Presented at multiple national and international conferences to demonstrate expertise
- 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.***

Professor Jerome Robinson Group **Brown University, Rhode Island, USA**
Scientific researcher June 2019 – September 2019

- Facilitated weekly team meetings to review progress & identify solutions, resulting in a reduction of errors and successfully meeting deadlines.
- Adapted quickly to new research environments, relocating across various countries, and collaborating with diverse teams of scientists.
- ***Techniques: GC, HPLC and NMR.***

Assistant Professor Darren Bradshaw Group **Southampton, UK**
Scientific researcher September 2018 – May 2019

- Collaborated with a multidisciplinary team of scientists to integrate and fit into a laboratory environment, driving the successful execution of projects.
- ***Techniques: IR, Mass spectrometry, PXRD, SCXRD, and TGA.***

Educator and Tutor **Bedfordshire, UK**
PGCE QTS Educator September 2020 – May 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 A-level students, resulting in a 90% pass rate in Chemistry, Biology, and Physics exams.

PREVIOUS EDUCATION

Integrated Masters **University of Southampton, UK**
Second Division Upper Class September 2016 – May 2020

- Collaborated with a small team to present projects & reports, achieving an 85% grade.
- Regularly delivered a high-quality product far ahead of time, followed up by clear, concise lab reports

A-levels **Cedars Upper School, UK**
September 2013 – May 2015

A – Mathematics, Chemistry, Physics (AS)
B – Biology

WORK EXPERIENCE

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

- Delivered ad-hoc analysis to 40+ clients, achieving project objectives within time and budget constraints.
- Produced campaign analyses for clients, uncovering trends & providing actionable recommendations.
- Conducted in-depth data analysis of large datasets to identify trends and generate actionable insights, using advanced SQL queries to uncover key patterns.
- Developed predictive models based on statistical inference & programming techniques (Python and R).

National Crystallography Centre **Southampton, UK**
Data Scientific researcher 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 crystal sponges using the crystalline sponge method & produce detailed reports
- Collaborated with Rigaku and Merck to optimise single crystal x-ray diffraction (SCXRD) techniques for characterising non-crystalline compounds, increasing the accuracy rate by 25%.

PERSONAL PROJECTS

Highlights

- Conducted an analysis of my daily commute, extracted from my Apple Watch, utilising R and Tableau to showcase critical insights.
- Explored insights into VAR (Video Assistant Referee) in the Premier League, incorporating data obtained through web scraping and manipulated using R. Visualisation was carried out using Inkscape for a polished presentation.
- Simulated the forthcoming Premier League season through 10,000 iterations of Monte Carlo simulations to forecast the final table, considering various statistical factors.

VOLUNTEERING

Sports

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

SKILLS & INTERESTS

Programming Languages: HTML, CSS, Latex, Python, R, SQL.
Visualisation and design: Adobe suite, Blender, Fusion 360, Inkscape, Microsoft Office, Origin, PowerBI, Tableau.
Languages: French (Beginner/Intermediate)
Interests: Fitness, healthy cooking, independent learning, public speaking, and travel

REFERENCES

Available on request