Alchemy: AI for Chemistry EDI Strategy

Background

Equality, Diversity and Inclusion (EDI) challenges are well documented within STEM subjects. Despite targeted interventions, there remain significant gaps, particularly in the representation of gender, ethnic minorities and those from low socioeconomic backgrounds. Challenges for neurodivergent individuals and those with disabilities are often exacerbated by the fast pace of technological development in AI and computing. Alchemy's vision is to bring together the fields of computer science and chemistry and to achieve this we must face the EDI challenges head on.

The Royal Society of Chemistry (RSC) has been actively working to improve diversity and inclusion within the chemical sciences in the UK. Despite these efforts, there are still significant challenges. For example, women and ethnic minorities are underrepresented, particularly in senior positions[i]. The RSC's most recent diversity data report highlights that while there has been some progress, much more is possible, and needs to be done[ii]. The British Computer Society's own diversity report has shown similar findings[iii], with the pipeline of female researchers even leakier in computer science when compared to chemistry[iv].

We will also seek to benchmark our findings against national averages for diversity in chemistry and computer science to ensure we remain at the forefront of improving inclusion.

Our vision

EDI is central to Alchemy's vision and operations, focusing initially on gender balance as this is a prominent challenge within both chemistry and computer science. We have led from the offset and challenged the stereotypical gender balance in the Hub's foundations with the leadership team comprising of 5 females and 3 males, as well as representation spanning a variety of disciplines and career stages.

Our EDI strategy will be overseen by our Co Directors, supported by an EDI Working Group consisting of the two Hub Managers who share the role of Hub EDI Lead, and two representatives from our ERC committee. Members of the EDI Working Group are Dr Chris Mellor (Imperial, Hub Manager), Dr Ben Alston (Liverpool, Hub Manager), Dr Alex Ganose (Imperial, ECR Committee Co-Chair), and Dr Tahereh Nematiaram (Strathclyde, ECR Committee member).

Our EDI focus areas are outlined below and form the basis of our strategy to engage with a diverse range of researchers across Hub activities, and work towards removing barriers for underrepresented groups. In ensuring these actions are carried out appropriately, we will focus our efforts on two streams, (i) analysis and monitoring and (ii) informed, evidence-based decision-making. We will ensure that EDI decisions we make are targeted in the most required areas across the chemistry/AI interface and across career stages. Such decisions and positive action may include ring-fenced internships and secondments, targeted training and outreach, and initiatives for academic recruitment. As a day-one policy, we will ensure reasonable deadlines for Hub funding calls (3 months from announcement) to maximise inclusivity.

Alchemy EDI Focus Areas

1 – Provide an inclusive and accessible Alchemy research environment

- Monitor diversity within Team Alchemy on an annual basis and initiate positive action where required to address any EDI issues or related challenges.
- Build a team culture within the core Alchemy researchers which is recognised as being inclusive, transparent and accountable.
- Ensure people from underrepresented backgrounds within Team Alchemy are visible and recognised.
- Ensure the inclusion of a diverse range of views and perspectives in all decision making and governance processes.
- Ensure the physical and digital spaces we use are accessible to all, providing adjustments where necessary to meet the needs of people with disabilities.
- Foster a culture of 'safe working' where all members of Team Alchemy feel empowered to raise concerns and suggest improvements.

2 – Embed equality, diversity and inclusively in all Alchemy activities

- Create visibility and awareness of our EDI related activities through an EDI page on our website.
- Proactively encourage ECRs and other underrepresented groups to actively participate in all Alchemy activities, including funding calls, networking events etc.
- Ensure EDI considerations are embedded in the organisation of all Hub events, including provisions for accessibility needs that would make participation easier.

- Offer an Alchemy conference care fund for those with caring responsibilities who may struggle to attend our flagship conference without additional support (e.g. to pay for a child minder, or for a relative to travel with them).
- Use gender-neutral language at all times and ensure all materials are accessible
- Ensure fair and inclusive recruitment throughout the Hub

3 – Ensure career progression and training opportunities for all members of Team Alchemy

- Develop an 'Alchemy Essentials' training package that all new Alchemy researchers should undertake to ensure they are fully aware of both EDI and their responsibilities as a researcher. Example training courses will be linked to: EDI, Data Protection, Research Integrity/Ethics, Trusted Research/Export Control, Unconscious Bias, Data management.
- Encourage Alchemy ERCs to demonstrate advocacy and leadership through the ECR Committee and associated activities.
- Provide mentorship or coaching for PDRAs and ECRs were requested via the Hub.
- Encourage Alchemy Hub management team members to undertake wider EDI training to provide them with the knowledge to monitor and take positive action where necessary across the variety of Alchemy activities. Example courses may include Unconscious Bias, and those providing awareness related to neurodiversity, disability, LGBTQ+, mental health, and bullying and harassment.
- Encourage the development of clear career progression pathways, especially for ECRs.

4 – Work with others to seek, share and promote best practice in EDI and RRI

- Establish partnerships with relevant learned societies to better understand the EDI issues related to our research community and work with them to further their, and our, impact.
- Connect with external stakeholders (e.g. Industry, other EPSRC Hubs, EDI Caucus, EPSRC EDI Hub, and other research institutes) to enable us to influence and support the implementation of good practice to improve research culture.
- Establish links with international hubs and organisations to enhance knowledge exchange and foster a global perspective on diversity and inclusion.

This plan will address current EDI challenges and outlines our commitments to developing solutions that benefit the entire AIchemy community. It will serve as an initial foundation, to be regularly reviewed and updated by the Hub's EDI Working Group to ensure its continued relevance.

Institutional and Department commitments

The AIchemy Hub will carry out these actions whilst also engaging with local departmental and institutional EDI policies and practices. The departments of all AIchemy Co-Is have active EDI Committees, through which many activities already take place, we will therefore seek to complement and not duplicate efforts.

With respect to Athena Swan, of our nine university partners, at institutional level we hold 1 Gold and 8 Silver awards, with the department of Chemistry at Imperial being one of only two chemistry departments across the UK to hold an Athan Swan Gold award.

In addition, our partner universities are all signatories of the UK Concordat to Support the Career Development of Researchers as well as being committed to upholding the principles of the Concordat to Support Research Integrity.

AIchemy believes that a diverse workforce, with people from diverse racial, educational and social backgrounds, and ages, helps to encourage creativity and foster innovation. All partner universities embrace diversity and have put in place inclusive recruitment practices to ensure the recruitment of the best people on the objective basis of their skills, ability and experience.

[i] Diversity landscape of the chemical sciences. RSC (2018)
[ii] Diversity data report 2022. RSC (2022)
[iii] BSC Diversity Report 2020: ONS analysis. BSC (2020)
[iv] There are too few women in computer science and engineering. Scientific American (2022)