Taking Pride in STEMM by taking STEMM to Pride!

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In the hopes of inspiring other science communicators to engage with the LGBTQ+ community, we highlight some of the barriers to inclusion in STEMM faced by this community and summarize the activities we exhibited on our "Proud to be a Scientist" stall at Exeter Pride 2024. This allowed us to reach traditionally excluded and low science-capital audiences and promote representation in queer spaces.

There is a growing need to improve the sense of belonging that lesbian, gay, bisexual, transgender and queer (LGBTQ+, where the plus sign represents the sexual orientations and gender identities used across the community) people experience across science, technology, engineering, mathematics and medicine (STEMM). While statistics on LGBTQ+ representation and experience are rather sparse compared with other demographics, reports that do exist consistently point to lower engagement by LGBTQ+ students in STEMM subjects and of higher attrition rates among LGBTQ+ STEMM professionals compared to their cisgender heterosexual counterparts. Issues with individuals not being comfortable to self-declare as LGBTQ+ in workplace diversity assessments, choosing not to be "out" to colleagues and/or students or feeling unable to be "out" in their professional lives are still prevalent across STEMM (Further Reading). This is compounded by recent cases where LGBTQ+ identities have been increasingly politicized, e.g., by the current culture war being seemingly ravaged against the trans community in the UK and the removal of parental rights from LGBTQ+ couples in Italy.

Searching for role models

The scarcity of positive LGBTQ+ role models across STEMM is abruptly apparent. Twenty years on since the repeal of Section 28, a Thatcherite piece of local authority legislation which forbade the teaching of homosexuality in a positive light in UK schools, there has been little effort to cement the LGBTQ+ narratives back into stories of past scientists. One potential exception is Alan Turing (and the posthumous pardon he received for the crime of gross indecency on the grounds of his homosexuality) but try finding mention of Turing's sexuality on the various blue plaques that bear his name or on the Alan Turing Institute's webpages, for instance. The message that we may celebrate the man is clear but there remains an element of 'don't say gay', echoing decades of legislation, like Section 28, which promoted the concept that LGBTQ+ identities were somehow unprofessional: a deviant act rather than a protected characteristic.

Obstacles to LGBTQ+ engagement with STEMM are notable around societal stereotypes of LGBTQ+ people. In American TV in particular, the trope of gay men being associated with the arts and musical theatre is all too familiar. It is far more rare for LGBTQ+ characters to be associated with STEMM professions. Our own recent interactions with students in outreach events have flagged to us that secondary school students are familiar with a 'gays can't do maths' stereotype and, on their own admission, were using this to excuse themselves from trying. This is deeply concerning in light of the absence of visible LGBTQ+ role models in STEMM; there is little to guard against this kind of stereotype, which creates an obstacle to LGBTQ+ people choosing STEMM subjects and careers. This acts not only to the detriment of LGBTQ+ individuals who may be put off well-paid and high skilled jobs in the sciences, but also to the STEMM sector which would benefit from the diverse perspectives these individuals hold.

Figure 1. PRISM Exeter coordinator Andrew Griffiths discusses the use of DNA barcoding to identify endangered species in shark products with stall visitors.

Figure 2. STEMM careers and inclusive practices guides exhibited on the stall which were kindly provided by Biochemical Society, Royal Society of Chemistry, Institute of Physics, UK Space Agency and Royal Astronomical Society.

Exhibiting at Exeter Pride

It is with all this in mind that we exhibited at Exeter Pride under the banner of 'Proud To Be a Scientist' (Figures 1 and 2). This was a collaboration between previous Biochemical Society Diversity in Science grant recipients, PRISM (Pride and Representation in STEMM Matters) Exeter and the Institute of Physics (IOP) South West branch. PRISM Exeter provides a regional network for LGBTQ+ STEMM professionals and students, and IOP South West have supported its coordination group since the network's foundation in 2018, acknowledging and appreciating that the network provides a unique resource to the LGBTQ+ community.

While moderately sized (an estimated 2000 people attended the Pride march), Exeter Pride is one of the UK's largest free Pride events, with stands and performances taking over one of the key parks and various buildings in Exeter's City Centre for an afternoon. Our stand included various hands-on scientific demonstrations and shared STEMM careers booklets from Biochemical Society, the UK Space Agency and the Royal Astronomical Society alongside LGBTQ+ inclusion literature from Royal Society of Chemistry and the IOP (Figure 2). Various freebies provided by learned societies, including "Proud to be a Scientist" stickers originally designed by LGBTQ+ Physical Sciences network member Joby Hollis, helped bring people to the stall. It was notable that every one of the hundreds of stall visitors was willing to engage with the science we demonstrated and we were humbled to see child-like enthusiasm and delight on the faces of some adults who had little to no previous experience of engagement

Figure 3. Artwork and poster by Exeter-based digital artist, Julian Hoad, commissioned by PRISM Exeter to celebrate the winning medical entry to its Queer Science Competition (QSC) 2024.

with STEMM stalls or science festivals (Figure 1). It was also heart-warming to be able to reaffirm the LGBTQ+ identities of students studying STEMM A-Levels or degrees and to give the occasional bit of STEMM careers advice to younger stall visitors who were so proudly displaying their identities!

Championing LGBTQ+ STEMM professionals

The Pride event also provided the opportunity to share recent and upcoming PRISM Exeter competitions and events, including a sneak preview of the artwork and poster we commissioned to celebrate the winning medical entry of our Queer Science Competition (QSC). The competition asked students from across the South West of England to champion a little-known LGBTQ+ STEMM professional in a short essay or video. It was carefully designed to challenge the stereotypes highlighted above and provide cash and work experience incentives to encourage students to discover LGBTQ+ role models across STEMM for themselves. This winning entry championed Professor Chloe Orkin, a British physician and professor of HIV/AIDS, whose work includes the development of novel

antiretroviral therapies, blood-borne virus testing and health inequalities (Figure 3; Further Reading).

The medical category for this year's edition of QSC was organized in collaboration with the Royal Devon University Healthcare NHS Foundation Trust to tie into the theme for LGBT+ History Month 2024: Medicine—#UnderTheScope. This was the first time in over a decade that LGBT+ History Month had had a central STEMM theme, with foci on the arts serving to emphasize the same stereotypes around LGBTQ+ people that feature heavily in the media. It therefore remains especially important to continue highlighting all the activity around LGBTQ+ History Month 2024. Our experience at Exeter Pride allowed us to reach so many young LGBTQ+ people as well as children and grandchildren of LGBTQ+ adults. We cannot advocate more strongly for getting out there and taking STEMM engagement activities to Prides to ensure the LGBTQ+ community is given an increased sense of ownership of and belonging in STEMM. ■

Further reading

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- PRISM Exeter's Queer Science Competition - https://prismexeter.com/qsc

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