

Project Title: What is a scientist? Exhibition  
Recipient: Dr Emma Waters, Research Scientist  
Grant Awarded: Biochemical Society's Diversity in Science Grant (£500)  
Report Date: October 2023

### Original planned event and motivation for exhibition:

Norwich Science Festival (NSF) is a nationally recognised festival that showcases the groundbreaking research and innovation associated with the city. This celebration of science and technology offers all ages an opportunity to discover how science influences everything around us and meet local scientists whose research is changing the world.


For NSF 2023, I organised an exhibition titled "What is a scientist?" with the aims of a) celebrating diversity in science, b) redefining the stereotypical vision of a scientist as an old, eccentric, white man playing with chemicals and c) inspiring the youth of Norwich to consider and explore scientific careers.

Supported by the awarded grant, a captivating double-sided photo wall featuring 45 scientists from the Norwich Research Park was created. On one side, their everyday non-science profiles were showcased, while their science-related identities were represented on the reverse. Members of public were invited to interact with inspirational volunteers who posed them the question "Who on this board do you think is a scientist?" with the ultimate revelation being that every single one was a scientist.



AM I A SCIENTIST?

Emma Waters      Norwich, UK



**Proud to be:**


- LGBTQ+ (pansexual)
- From a disadvantaged background
- Dyslexic

**Fun fact:**

It's taken Emma's family 100 years to move from Great Yarmouth to Norwich.

That's 80m a year!

Emma Waters




Quoram  
Institute  
Science · Health  
Food · Innovation

**I am a:** Postdoctoral Researcher

**I work on:**

- Bacterial niche adaptation via DNA rearrangement
- All living things have DNA in their cells, which contains instructions telling each cell what job it has. Bacteria can shuffle their DNA instructions, to survive new stresses & environments. I look at the order of these instructions.



I AM A SCIENTIST

This exhibition surprised and changed mind sets of individuals about scientists, by conveying the powerful message that anyone, regardless of their background, race, age, sex, disability, etc can be a scientist. By providing visible role models in science, I aimed to empower children to say, "I am like this person in x way, so I could be a scientist too." I firmly believe that if people cannot see themselves reflected in their role models, they can dismiss the possibility of pursuing something they potentially want to be.



This endeavour holds particular significance in a location like Norwich, which is home to one of the country's largest research parks, yet still grapples with above average deprivation. Norfolk is the most deprived county in the East Anglia region as reported by the Office for National Statistics Census. A project like this is also of national importance, as reports like the Royal Society's 'Ethnicity in STEM' and the jointly commissioned report 'Exploring the Workplace for LGBT+ Physical Scientists' demonstrate the persistent disparities in the social identity of UK researchers, spanning race, gender, disability, nationality, religion, sexual orientation, and socioeconomic background.

## Impact, subsequent events, and future for exhibition:

With the far-reaching potential and impact of this exhibition in mind, we secured participant consent for use of their profiles to extend this exhibition's impact and influence beyond the originally planned science festival event, until February 2026. This foresight paid off as the exhibition's powerful message quickly gained traction, becoming a sought-after addition to various events: including royal regional festivals, research park conferences, events celebrating diversity and local school science events.



An inspiring success story unfolded when Eaton Primary School requested the exhibition to coincide with British Science Week's theme of smashing stereotypes. To introduce the week, I gave interactive assemblies which captivated the entire school's curiosity, with brave children using post-it notes to select who they believed was "most likely was a scientist" and explaining their choices to their fellow pupils. Some believed this to be a trick question, opting for cartoon scientists, while one child delivered a memorable quote: "None of these people can be scientists because they look like they are having fun".



This engaging format effectively shattered children's preconceived notions of scientists, exposing diversity within the scientific community and the boundless opportunities this career path offers. Each class enjoyed a dedicated time slot to visit this exhibition during the week, where children designed profiles of themselves, giving them the time and space to imagine themselves as scientists and sparking their imagination into what they would investigate.

The resounding success of this delivery format of the exhibition has triggered requests from other schools for future events but has also inspired me on how this could be packaged as an interactive online resource for schools. I am committed to continuing to break down barriers, challenge stereotypes, and inspire the next generation of diverse scientists, not just in Norwich but across the nation. This Biochemical Society's Diversity in Science Grant has helped frame the initial idea of this exhibition and we are exploring avenues for further funding to expand and enhance the current exhibition and also develop an online format.

Brief Summary of Impact to date	
Blog post (10 <sup>th</sup> Feb)	<ul style="list-style-type: none"> <li>- Titled "<a href="#">Diversity in science; If you can see it, you can be it - Quadram Institute</a>", with 259 page views since publication from 182 people</li> <li>- Promoted the motivational vision behind this exhibition</li> </ul>
Norwich Science Festival 2023 (11-18 <sup>th</sup> Feb)	<ul style="list-style-type: none"> <li>- Captivating, permanent exhibition throughout whole festival week</li> <li>- Over 80,000 festival attendees</li> <li>- 12 volunteers actively engaged with the public</li> </ul>
Out Thinkers: Celebrating LGBTQ+ in STEMM (11 <sup>th</sup> Feb)	<ul style="list-style-type: none"> <li>- Exhibition located in breakout area</li> <li>- Dr Waters gave engaging talk "LGBTQ+ Role Models and Where to Find Them?", promoted the exhibition and celebrated all diversity in STEMM</li> </ul>
Eaton Primary School British Science Week (10-17 <sup>th</sup> Mar)	<ul style="list-style-type: none"> <li>- 3 assemblies given based on British Science week's theme of smashing stereotypes in science (400 students split by age 10-11, 8-9, 5-7)</li> <li>- Each class visited the exhibition in their hall and participated in exhibition-based activities</li> </ul>
Earlham Institute (12-26 <sup>th</sup> Apr)	<ul style="list-style-type: none"> <li>- Exhibition located in institute's atrium for 2 weeks</li> <li>- Accessible to 200 staff</li> </ul>
Royal Norfolk Show 2023 (28-29 <sup>th</sup> Jun)	<ul style="list-style-type: none"> <li>- 3,000 visits to the STEMM village</li> <li>- 9 volunteers actively engaged with ~650 members of the public</li> <li>- Successful interactions with MPs and VIPs</li> </ul>
Social media coverage (focused 14 <sup>th</sup> Dec-19 <sup>th</sup> Feb, and ongoing)	<ul style="list-style-type: none"> <li>- 28 #WhatIsAScientist tweets from personal and group accounts</li> <li>- 94 retweets, 521 likes, 57,031 impressions, 2,242 engagements (4.1%)</li> <li>- at least 30 associated tweets from other accounts</li> </ul>
Future planned events	<ul style="list-style-type: none"> <li>- Norwich Research Park support staff networking day</li> <li>- Norwich Research Park LGBTQ+ STEM event</li> <li>- Sixth form &amp; high school engineering/STEM events</li> </ul>