Communications and Outreach Activities within the CLF

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The CLF's Communication Strategies

The role of the CLF's Impact and Engagement team is to promote CLF science and technology to some of our key audiences to share what we are capable of, to engage with our community and to recruit new people. Different audiences require different types of interaction, and we continually work to develop and harness the tools needed to communicate with each effectively.

We are responsible for internal and external engagement functions, including: the CLF website and social media for our general science audience, staff and user community; talks, tours and activities for our general and 'next gen' audiences; and a fortnightly newsletter for CLF staff.

Social Media

Twitter

Since October 2022, we have seen some significant changes to Twitter that have caused some users to leave for other platforms, and for UKRI and STFC to consider whether we should also move to another platform. With the advice of UKRI and STFC, combined with our own analysis, we have determined it is currently most beneficial to remain on Twitter for now. However, we have also started a LinkedIn profile for the CLF. This is so we can expand our horizons to help capture lost Twitter users, and to keep an active, established backup in case Twitter is no longer viable.

Social media is incredibly important for interacting with some of our key audiences. Monthly analyses of the CLF Twitter account show that, despite the recent changes to the platform, we have grown in followers and that these followers are largely users and the scientific community. This means that, when we share a tweet, we know that what we are sharing will impact the right people.

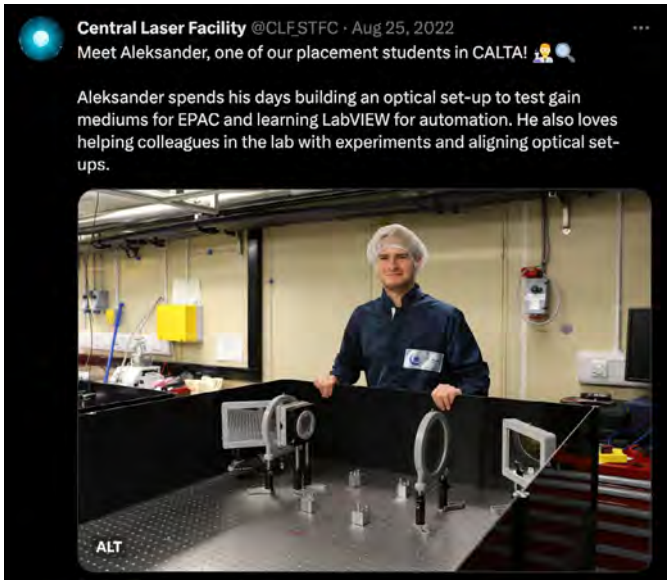
2020/21	850	(263 more than the year before)
2021/22	1,067	(217 more than the year before)
2022/23	1,315	(308 more than the year before)

Connecting with users

Our primary goal on social media is to increase or maintain our engagement rates on the tweets we share. Our impact is captured in a monthly meeting where we discuss what went well and what did not, and we then adjust our posts accordingly.

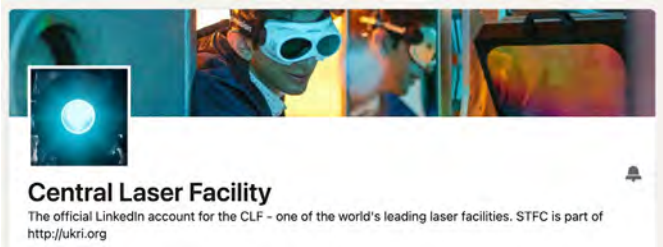
Some of our most impactful tweets from the financial year are shown below:

As can be seen, more casually written tweets seem to do well, and we have found that our audience tends to engage with pictures of our staff. This may well be because our audience, mostly made up of staff and users, may recognise the people in the photo. Additionally, general data suggests that most audiences prefer people-focused photos.



LinkedIn

Created with the purpose of engaging and connecting with users and potential new recruits in November 2022, our LinkedIn had 298 followers as of 1st April 2023. The majority of our followers are working in research, education, operations, and engineering. Analysis shows that job adverts get better in engagement on LinkedIn than on Twitter.



Keeping connected

We continue to keep in close contact with the STFC Twitter and Instagram team, through whom we can reach a more general public audience, as opposed to the general scientific audience that the CLF Twitter aims to attract. To aid these discussions and others, a CLF representative attends a monthly Social Media meeting, where all the departments can communicate new ideas, campaigns, and best practices.

The CLF Website

The CLF website continues to get a lot of visits. Many people find us by organic search - they search for something relative and the CLF pops up!

In the six months from October 2022 to April 2023, we had:

16,000 new users

3,500 returning users

65,000 page views

The top three most visited pages were:

- CLF Homepage
- CLF Facilities
- CLF News

Engaging the Public

As part of our goal to engage with the next gen audience, we often host visits to our facilities. These visits, organised through RAL Public Engagement, have allowed us to engage with a key demographic: 8 – 14-year-olds. This is the age at which children are starting to think about their future careers, and is also around the age when many young girls unfortunately decide that science and engineering is not for them.

Overall, from FY 2022 – 2023 we hosted 120 visits for our facility for nearly 1,500 guests.

Broken down, this looks like:

19 Next Gen	**1** General Public	**29** Scientific	**26** Industry
28 Stakeholders	**13** VIPs	**14** Others	

Total number of people engaged with: **1,490**

Looking more closely at Next Gen Public Engagement efforts

- Total people engaged via public engagement programme between April 2022 and March 2023: 1312, of which:

999 public
family audiences, so estimate ~30% were age 8 – 14, a key target

162 secondary school
teachers and students

5 work experience placements

150 primary school
teachers and students

12 CLF staff volunteered at least once
note that some staff volunteered at non-CLF events

A New CLF Public Engagement Activity is Piloted

After some brainstorming and trying out different activities with the Public Engagement team, we started a new CLF activity where school visitors make a paper Chinese lantern complete with a light inside, powered by a simple circuit. The idea behind this activity was that different coloured lanterns have different but significant meanings in Chinese culture, much like how we use different colour lasers to do different things in the CLF.

We introduce this activity by explaining how many of the "colours" around us are invisible to the naked eye, but can be very useful when used with scientific lasers. We then teach the children how to build the circuit and lantern, encouraging experimentation with the number of lights and diode colours, and creativity with the style of lanterns.

This lantern workshop has now been delivered three times to a total of 150 children, and we have improved upon it each time, establishing it as a unique CLF workshop. We will be conducting it again during Daresbury Open Week.

Welcoming New Staff

The CLF and other STFC departments have created a rota for hosting virtual tours for new starters. These tours take place throughout the year and are designed to show staff what is going on all around them in the place they work. It also helps CLF staff themselves, because often we find that people from one part of the CLF do not realise what is happening in another.

Below is some feedback from a New Starters' tour we hosted alongside the Scientific Computing Department:

- 66.67% of attendees marked the tours 5/5, with the remainder marking them at 4/5
- 83.33% of attendees said the tours were at the right level for them
- 83.33% of attendees said the tours were just the right length

When asked what the audience learnt, comments received included:

> *"Cool stuff about stretching, squeezing and flattening laser beams."*
>
> *"I liked learning about how the lasers could recreate the supernova."*
>
> *"An overview of computing and laser capability and their application at UKRI. A case study presentation about laser application for simulation of supernovae, amazing lesson."*
>
> *"Thank you very much and it was a great experience for me."*

Such positive feedback makes it feel worthwhile presenting staff tours and talks, and we are thankful for the support we have received to pull everything together.

Attracting a Wider Audience

Communication this year has begun to look a little more like how we operated pre-pandemic, although it is clear that we may never entirely return to how things were before. For example, many audiences are now far more comfortable with online engagement, and this means that we can reach people without the constraints of distance and capacity.

We have completed an array of projects to help make the CLF more appealing to a wide range of audiences. We have so far highlighted a multitude of projects in this summary, however, a few more are highlighted below.

CLF Impact Awards

On UNESCO's International Day of Light (16th May 2023), we will be officially announcing the winners of the CLF's first ever Impact Awards.

These awards, for Societal and Economic Impact, were available on an application basis to any staff and user who has used our facility for published research.

The entries have been judged by the CLF Communication and IPI (Industry Partnerships and Innovation) groups. They followed the Research England definition of impact for the REF, where impact is referred to as *"… an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment, or quality of life, beyond academia"* in the UK and internationally.

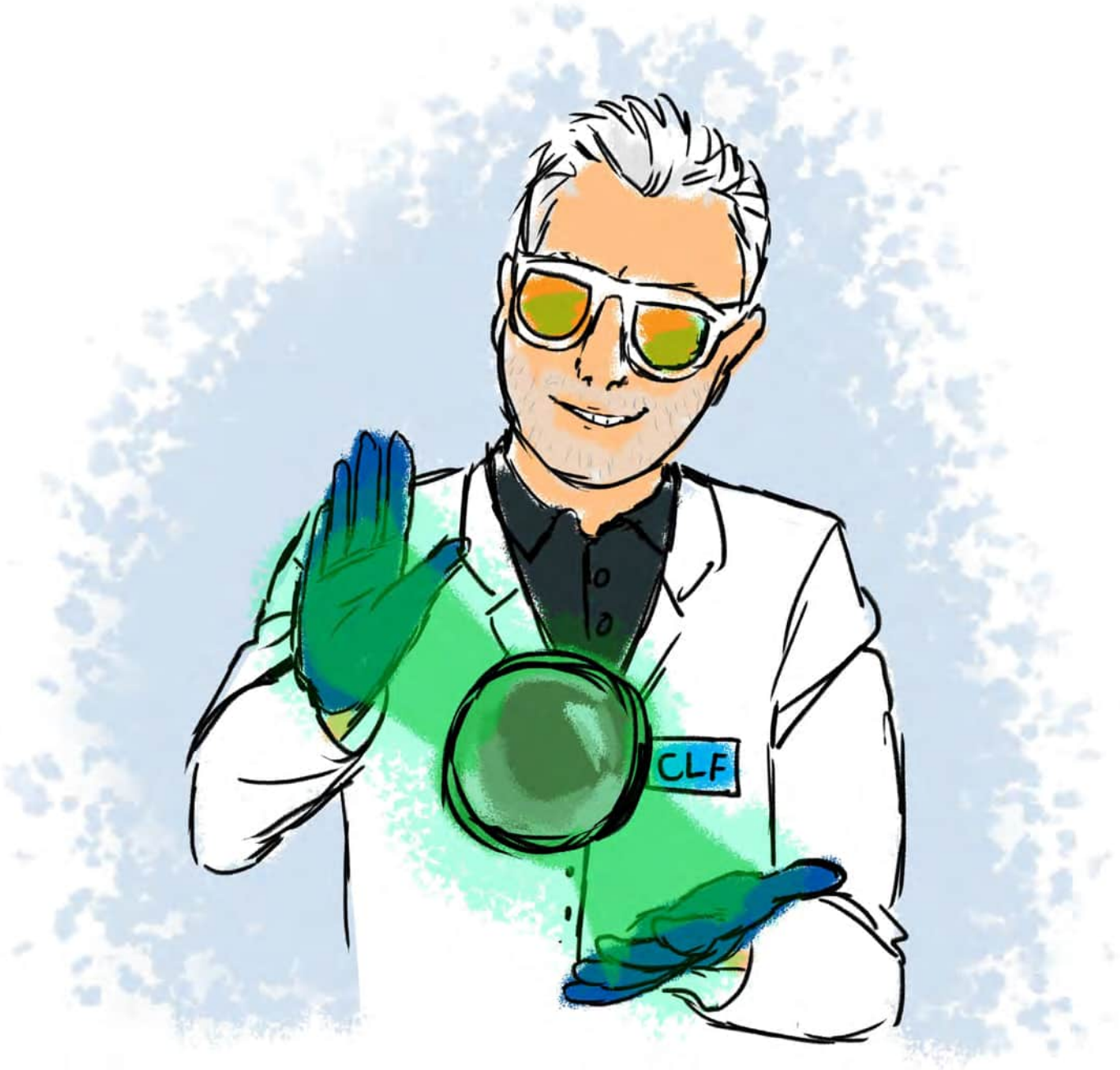
The winners will receive beautiful, laser-target sized trophies hand built by our target fabrication team, a certificate, and a written case study and promotion on social media.

The Magic of Laser Levitation at Talking Science

Back in May 2022, Dr Andy Ward hosted a Talking Science! This is an initiative with RAL Public Engagement that orchestrates talks from STFC scientists and technicians that are open to the public. Andy gave a talk once at lunchtime and once in the evening on his work with laser trapping – even though it sounds like science fiction, we really can levitate objects mid-air using lasers – very small objects of course!

Getting the news out there

A particular highlight this year was allowing ITV into our labs to film a news segment on the Laser Fusion breakthrough back in Autumn 2022. The segment was filmed inside the Vulcan laser facility and we, alongside Vulcan scientists, helped the TV host talk accurately yet accessibly about the laser on national television.



Unusual avenues of engagement

As a slightly less mainstream way to help engage the scientific community, where possible we have offered our illustration services to staff and users who have the opportunity to submit a journal front cover image for research completed at the CLF. We work with the researchers to create an image that is unique and professional, and reflects their work accurately. These images give our researchers a higher chance of being awarded the front cover spot, and this, along with the journal's image credit to the CLF, increases our chances of exposure to the journal's audience.

As a positive aside, this project has given our team the opportunity to work with researchers on a more personal level, resulting stronger relationships and an art piece that celebrates their incredible work.

EPAC Open Day

On 25th May 2022, we helped host EPAC Open Day for around 200 attendees from the CLF and surrounding buildings.

We were responsible for creating posters and signage for this event to help guests navigate the building and learn about the different parts of EPAC. On the day of the event, as well as Live-Tweeting, we also organised an Instagram Takeover via STFC's account to reach a wider audience.

Daresbury Open Week 2023

Looking forward, we will soon be attending Daresbury Open Week in July 2023. This Open Week, consisting of two days for school visits and one public day, will involve lots of preparation work from CLF comms, including to inspecting and risk assessing several CLF demos, training staff on activities and demos, creating freebees and posters, and liaising with RAL public engagement to make sure everything is shipped and ready for Daresbury.

Pages 21 – 80 contain a selection of abstracts that offer an insight into some of the scientific and technical research that has been carried out by users of the CLF and its staff this year. Due to issues with space, we cannot include the details of institutes with the author names on these abstracts, but there is a full Author Index starting on **page 112** that includes these details. Where possible, the online version of this report on the CLF website will also provide links to published papers, which contain these details.