

Communication and Outreach Activities within the CLF

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CLF's Communication Strategies

The CLF recognises the importance of communication with current and potential users, STFC, UKRI and other funders, new industry partners, the wider scientific community, and the general public. Outreach activities raise the profile of our world-class research and may inspire the next generation, while communication activities help to publicise the high-impact and inspiring science that the CLF delivers. Over the past year, the CLF has embarked on several exciting projects to help achieve its strategy of finding new and innovative ways to communicate what we do. This has involved working directly with STFC communications team members, hosting and involving ourselves in events that increase our visibility, and exploring new media as a vessel for communication.

Exploiting social media

Since its establishment in February 2018, the CLF Twitter account continues to be regularly maintained. By March 2019, it had almost 400 followers, including a number of Principal Investigators and users with whom we regularly interact via the account. The Twitter account has several purposes: to gain the attention of audiences we may not otherwise reach; to interact with the scientific community in a casual setting; and to create another channel back to the CLF website, where we have more stories, information, and the opportunity to apply for access.

Popular tweets tend to include job adverts, details of staff achievements, and tweets with illustrations, GIFs or videos attached.

Over the past six months, the CLF website has attracted over 12,500 users, with almost 49,000 unique page views. Excluding approximately 1500 users based at Harwell, this corresponds to 60 external users per day. This is 1,500 more users than last year and five more users a day. Out of 12,500 users, 129 came from twitter, 83 from Facebook, 20 Youtube, nine LinkedIn and four Others.

In order to get the most out of the CLF Twitter account, the CLF Communications Team holds monthly meetings with the STFC social media team and account owners from the other STFC facilities. This regular communication keeps the CLF up to date with STFC social media schemes, and enables us to tie them into our own projects and ideas.

Capturing science in action

In 2018, STFC hired a new videographer, Raquel Taylor, who has already worked on several exciting projects with the CLF. She has currently published five professional videos for social media about experiments, our lasers, and the scientists and engineers who work at the CLF. This is a large proportion of the 23 videos she has produced in total for RAL and DL. The CLF Communications Team continues to drive this work, as they understand how eye-catching and engaging videos can be, especially on social media; according to Twitter¹, tweets with videos garner around ten-times more interaction than those without.

Attracting a wider audience

As part of the Communications Team's initiative to develop new and innovative ways to communicate the CLF to the public, we secured Simon Clark, a physics YouTuber with over 200k subscribers, to visit the CLF site to film. He published two videos - one on the extreme power of lasers, and the other on our specialist imaging techniques, which featured an interview with Prof. Pavel Matousek.

These videos have together had around 27k views; moreover, they have reached an international audience, with the high volume of viewers far greater than what would be attracted to CLF-only videos. Comments from viewers have also been extremely positive, in particular from those saying that they now have a better understanding of this area of physics or that they feel inspired to do physics.

¹ <https://business.twitter.com/en/blog/creating-video-content-with-your-phone.html>

Another exciting moment for us was when CLF Engineer Steph Tomlinson was interviewed on BBC Radio Oxford. During her appearance she talked about her background, her engineering career, and the daily enjoyment she gets from working in a dynamic and innovative job. Recent data indicates that BBC Radio Oxford has an average of 82,000 listeners per week, which is a huge audience for the CLF to reach, raising our profile in the local area.

In February 2019, the CLF's Gemini Laser was featured in New Scientist magazine. The article, entitled "What's inside nothing? This laser will rip it up to find out," featured a Gemini experiment colliding electron beams with lasers to explore the limits of quantum electrodynamics (QED).

The art of science

The use of art to communicate our science has continued. A general audience-focused [infographic](#) was designed to show how our lasers are being used to shape the future. This infographic gained almost 130 interactions on Twitter, and the information and images have been reused multiple times.

As part of our public engagement strategy, we produced a series of postcards using illustrations depicting high power laser highlights. These postcards carried an image on one side with a summary of the science on the other, and they have proved very popular with both staff and the public. At the UK Research and Innovation Conference in June 2018, many people asked to take postcards home for a variety of reasons – some liked the artwork, others thought the science highlight was intriguing, while a few mentioned taking them home to show their children



QR code to download the infographic



The printed postcards (left) and CLF Impact and Engagement Officer Helen Towrie at the UKRI Conference in Swindon

Linking in to global science highlights

This year was a big year for lasers globally, as Donna Strickland and Gérard Mourou won half the Nobel Prize in Physics for inventing Chirped Pulse Amplification (CPA). All of the lasers at the CLF use this technique in some capacity.

The other half of the Nobel Prize in Physics was awarded to Arthur Ashkin for his invention of Optical Tweezers, a technique where tiny droplets of substances such as oil or glass can be held between beams of light. This technique is used in Octopus, and has enabled a wide range of studies including trapping individual solid particles of asthma inhaler drugs, and cloud chemistry.

The CLF marked the Nobel Prize with news stories and tweets highlighting the links to our work.

Organising user events

Several CLF-organised events have taken place over the past year. Perhaps most notable is the annual Christmas meeting of the High Power Laser (HPL) User Community, which over the years has grown from a small meeting to a huge, three-day event comprising talks, poster sessions and fantastic networking opportunities.



People gathering at the Christmas meeting of the HPL User Community

The annual Target Area Operator (TAO) training weeks, organised by Dr David Carroll, took place in the summer. These courses cover TAO responsibilities when leading a research team during an experiment and explain how the role fits within the safe working culture of the CLF. Specific aspects of health and safety related to experiments on high power laser facilities are also explored, including vacuum and gases, ionising radiation, and laser safety. Although these courses are tailored to meet the needs of the CLF's HPL facilities, they help to develop skills and knowledge that are applicable to experiments at other laser facilities, and also provide an opportunity for the attending scientists to network with each other.



Delegates on the annual Target Area Operator (TAO) training weeks.



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Maintaining all avenues of communication

Alongside discovering new and innovative ways to communicate our science, the Communications Team continues to maintain existing methods of communication.

Outreach within local and wider communities is of great importance to the CLF, and includes interactions with schools across the country to highlight our areas of expertise. We have hosted around 80 tours of the Facility, around 27 of them for school children and those in higher education, along with a high number of general visits. At a recent visit from young students, we demonstrated how to freeze boiling water in a vacuum and explained the science. Such visual demonstrations are intended to foster engagement with students, and inspire them to consider a career in science and engineering.

RAL also hosts a bi-annual stargazing event, which is a fantastic way to interact with families from our local community. The CLF Visitor Centre has always proved a very popular destination at these events, and we ensure that the displays raise awareness of what we do and get people interested to find out more.

In order to keep CLF staff up-to-date with what is happening across the whole of the CLF, the Communications Team maintains a bi-monthly E-newsletter that shares science highlights, conferences, and events across the breadth of our various departments.

A total of 25 news articles have also been published online, across the CLF website and the STFC website.