

Foreword

At the start of this year, the Central Laser Facility underwent its 10-year review. These reviews aim to identify and recommend future improvements such that STFC facilities continue to be of world-leading quality. They are conducted by specifically-convened, external Panels who review key documentation and interview users and staff to provide an independent peer perspective.



Pulling together the report and presentations for the Panel was no small task. Over the last 10 years, a lot has been going on at the CLF! The review broadly looked at research, innovation, industrial engagement, skills development and expertise, and our strategic direction. As you can imagine, there was a lot to capture: user programmes, international activity, strategic partnerships, facility and technology development, innovations, training and support, communications and outreach, and sustainability, to name but a few. Each claim we made had to be—and was—backed up by robust evidence.

Over an intense two days, the Panel attended presentations, interviewed users and staff, and asked a lot of questions. It was a very thorough review, but ultimately rewarding.

The Panel commended the CLF for providing an outstanding capability for the UK research community, highlighting clear excellence in delivering and supporting world-leading research that is underpinned by exceptional technical capabilities. Moreover, the entrepreneurial culture of the CLF was cited as a key strength, with the DiPOLE laser programme and the target fabrication facility highlighted as examples of world-leading activities and great success stories.

These findings are fully in line with our own mission statement, “To be, and be seen as, a global exemplar of the best science, skills, innovation and driver of prosperity using lasers”.

The recommendations that came out of the review also aligned with our future plans. In over 45 years of operation, we have consistently responded to new opportunities, embraced technological breakthroughs and found new funding streams that have allowed us to become a globally leading hub for laser research. The CLF continues to work to enable and sustain the development of skilled people and the application of laser technologies, ably supporting the UK academic community, industry and other government departments, and connecting researchers across the world. Through the ongoing EPAC, Vulcan 20-20 and HiLUX projects, we're developing a new generation of laser facilities that will continue to inspire and serve scientists and engineers alike. Alongside outstanding engineering support, we offer scientific staff assistance, in-house target fabrication, and theoretical and computing work to our user community, helping to increase the productive output of research.

This annual report offers an insight into some of the incredible scientific and technical research that has been carried out by CLF users and staff over the financial year 2023/24. The research spans a broad range of science areas, and supports wide-reaching efforts to help solve major scientific, economic, and societal challenges.

I am delighted to see the impact we are having, and the difference we are making. I do hope that you enjoy reading this selection of abstracts, and feel inspired by the achievements of all those involved and motivated to explore the capabilities and services on offer through the CLF.

Professor John Collier FLSW

Director, Central Laser Facility

A handwritten signature in black ink, appearing to read 'John Collier', positioned to the right of the printed name and title.